ROAD and TRACK

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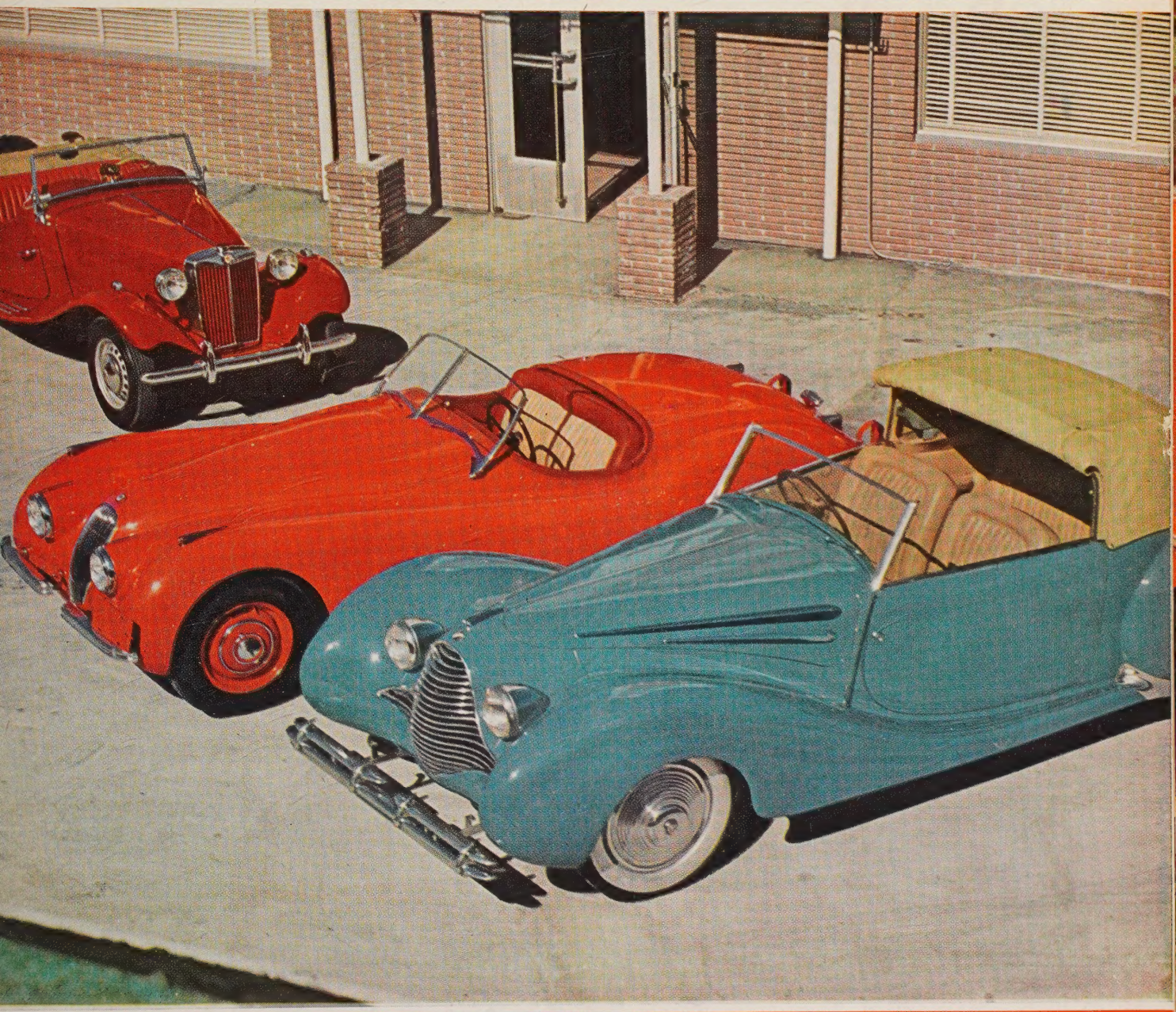
Vol. 3, no. 1

GUST, 1951

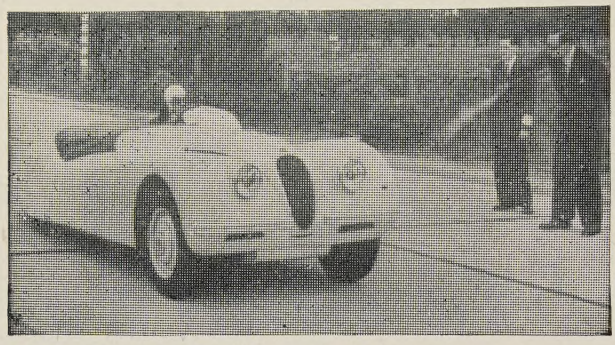


MG JAGUAR XK-120 TALBOT

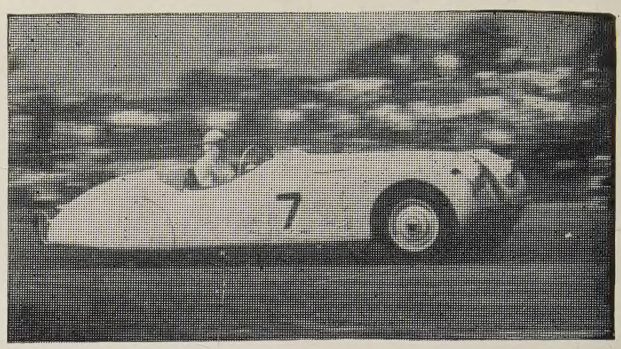
PHOTO BY JACK CAMPBELL

The Motor Enthusiasts' Magazine

OUTSTANDING VICTORIES AND ACHIEVEMENTS, 1949-1950

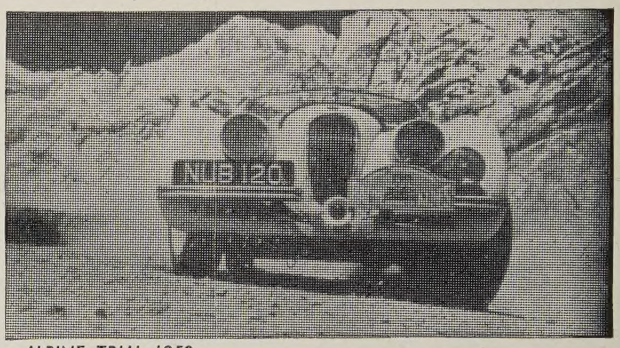


JABBEKE (Belgium) 1949 (132·6 m.p.h.—flying mile)

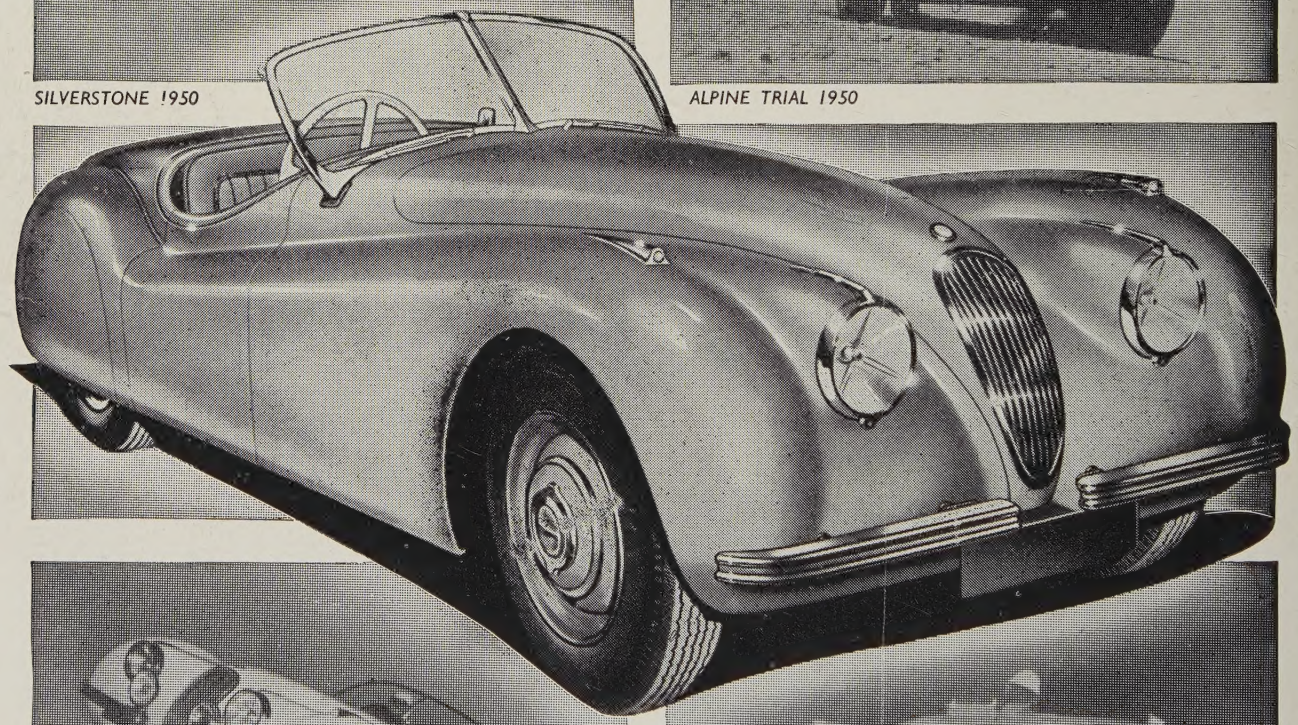


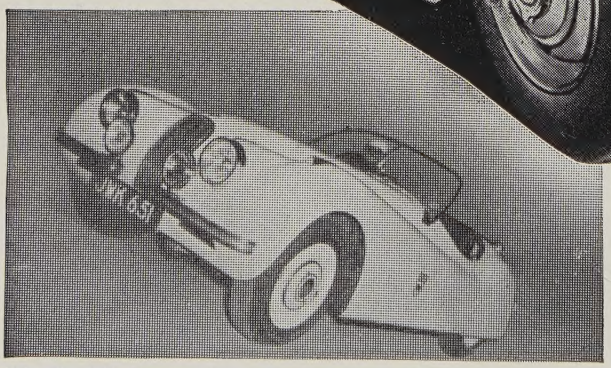
SILVERSTONE (England) 1949

SILVERSTONE 1950

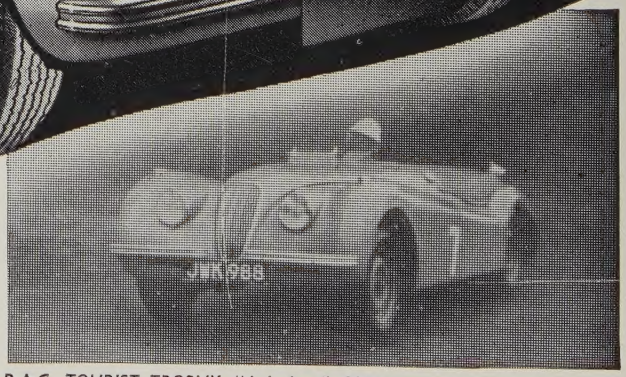


ALPINE TRIAL 1950





MONTLHERY (France) 1950 (107·46 m.p.h. for 24 hours)



R.A.C. TOURIST TROPHY (N. Ireland) 1950

THE TOURING CAR WITH THE RACING PERFORMANCE

JAGUAR

XK SUPER SPORTS

Write for details to the distributors for States West of Mississippi: Charles H. Hornburg Jr., 9176 Sunset Boulevard, Los Angeles, California
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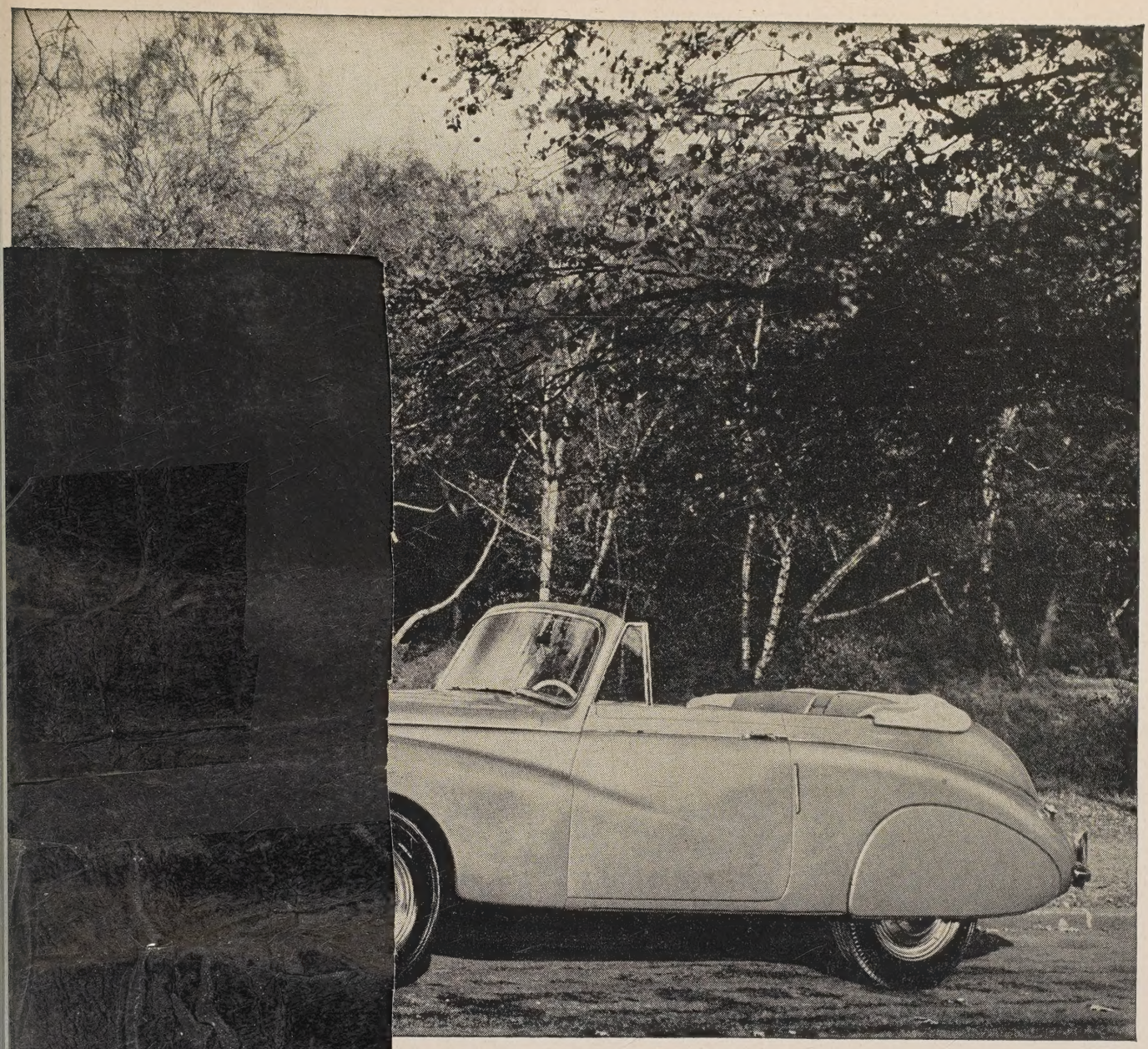

Darling
d Over!

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A Product of the Rootes Group

No wonder the Sunbeam-Talbot is the delight of the sportsman driver from Buffalo to Bangkok . . . from Watkins Glen to Waikiki. Over the highest passes of Europe, in the Alpine Trials and through the 2,000 miles of ice and snow of the Monte Carlo Rally, the sure-footed, tireless power of the Sunbeam-Talbot has always brought it out in front—a consistent winner of premier awards in both events.

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Sales and service throughout U. S. and Canada. Write for the name of your nearest dealer.

CORRESPONDENCE

BACK ISSUES

Is there any hope of my obtaining June 1947, August 1948, January 1950 and January 1951 issues of Road and Track? I have perfect copies of February 1949 and May 1948 to exchange for June 1947 and August 1948 or January 1950 (or would purchase outright).

54 Oakland Ave.
Westmount, Quebec, Canada Gordon Fairbanks

I am very anxious to obtain the first four issues of Road and Track.

Waldorf Hotel,
Opelousas, Louisiana E. Earl Christman

HILLMAN OWNER vs. TECH. ED.

Attention—Technical Editor: Just bought the July issue and came across your remarks about "so-called economy cars" and am burning slowly!

I have a Hillman which sells for $1545 in So. Calif., a Ford V-8 sells for approximately $1968. $423 difference or about 36% more than the Hillman . . . . take a stock V-8 and cruise 55 mph (State Law)—check gasoline mileage. Man, you are just a little mixed up to say the least. I'll admit the Hillman won't dig out as a Ford will, but we're still comparing "so-called economy cars." Also, what does your chart say about tire mileage at speeds of 60-70 mph?

Capistrano Beach, Calif. Paul H. Skelton

PHEW!

Would like for Ray Carlson [Pg. 5 June R & T] to remember what dear little kitty cat also has a stripe down the middle of its back.

Mare Island, Calif. Bob Hasbrouck, YN3 USN

AMERICAN STOCK CAR RECORDS

What are the official records for stock closed cars for 1 mile (flying start), 100 miles and 24 hours?

Corydon, Kentucky Elmer Chancellor

The AAA Official American Stock Car Record for Unlimited Class (regardless of displacement) Closed Car Division is:

1 mile (f.s.)	**107.66 mph Cord Super 8**
100 miles	**106.39 mph Cord Super 8**
24 hours	**101.72 mph Cord Super 8**

All of these records were established in September, 1937.—Ed.

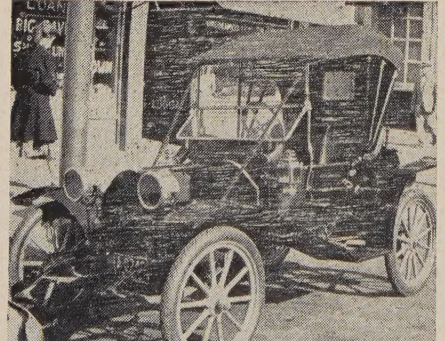
HENRY J vs OLDS 88

I'm the owner of a '51 Henry J 6 and an ex-owner of an Olds 88, so I really enjoy the controversy of Elliott and Clymer. The Henry J has better handling, cost less to buy and operate. I now have 18,000 miles on it, getting 27+ mpg at 60+ mph, no oil consumption, top speed approx. 86 mph. I would like to hear from other Henry J owners.

Ashley, Michigan Jeane Burnham, Jr.

1911 HUPP FOTO

In response to your statement, Road and Track, April issue, requesting photos of old or



unusual cars, please find enclosed photo of Hupp, taken at Columbus, Ohio, during the summer of 1949.

Toledo, Ohio Chas. G. Sting

POMEROY'S AGE

I am writing to express my appreciation of the kind words written by Mr. de Beaumont in respect of my book "The Grand Prix Car."

Lest, however, Mr. de Beaumont's assessment of my age affect my chances of present life insurance or future romance, I would point out that I was only six years old when my father, Laurence Henry Pomeroy, was Chief Engineer of Vauxhall Motors Ltd. and designed the 30/98 in 1913. As there are doubtless a few of your readers who remember my father from his period with the Aluminum Corp. of America between 1921 and 1927, perhaps you would make a correction in a forthcoming issue so as to get the Pomeroy family in proper chronological order. . . .

London, England Laurence Pomeroy

BURNED PISTONS IN CROSLEY

I recently put an I.T. blower on my Crosley Hot-Shot. In less than 100 miles, have blown one piston and seriously damaged two others, necessitating major repairs. As counter-measures, have installed Lodge platinum plugs and a straight-thru exhaust. Would cast-iron pistons help? Or lower compression?

Ridgway, Pa. J. R. Curry

The piston failures are due to too high a temperature. This is, in turn, due to one or both of two things: (1) too lean a mixture, (2) detonation. The cure for the 1st is obvious. The cure for the 2nd is either lower compression or higher octane fuel.

Cast iron pistons will not help; in fact, they may hurt because of their lower rate of heat transfer. Lower compression ratio appears to be advisable, tho you do not state what ratio you are using and I can only suggest, therefore, that you consider the alernatives of water-alcohol injection or experimenting with fuel additives such as benzol or alcohol, before going to the trouble of getting special pistons.—Ed.

MAWHINNEY, JOIN AIR FORCE

Mr. Mawhinney . . . . your letter [re XP 300—La Sabre] was pointless from the start . . . . Obviously you read Mr. Barlow's letter in a very dim light . . . . I suggest you learn the true definition of a sportscar, then proceed to local Air Force recruiting center and ask for duty in a JET squadron——your dream come true.

San Diego, Calif. Ian I. N. Taylor

"Le Sabre" a SPORTS CAR?

Mr. Mawhinney (defense of "Le Sabre," July R & T) should be glad rather than sorry that he had no part in the designing of the so-called "Hot-looking dream car."

While this overgrown Cadillac has some nice points, such as power to weight ratio (10-1) and light body construction, the rest of the garbage on the car is about as useful as a fork to eat soup with. One thing for sure, if G.M. does build the "Le Sabre," there should be at least two as I am sure that neither Buck Rogers nor Flash Gordon could carry on without a "Le Sabre" to their names.

If Mr. Mawhinney has ever driven an Italian sports car, he has been sitting in it backwards. If he insists on a sports car with short hood, long rear and rear engine drive, then I suggest he may buy a used Greyhound bus, install rocket type tail and Cad fins, chrome the lower half, add twin spots and he will have his dream car. I will forward to him a 17" foxtail to fly from his antenna.

Is a car functional when, with the road characteristics I presume the "Le Sabre" to have, scares the average American driver at 90 mph so much that he wets his pants, thus causing the super-sensitive spot in the seats to react, causing the top to erect itself? This even Mr. M. will see could result in disaster. (Like hoisting a sail at 90 mph.)

Beverly Hills, Calif. Hal Koch

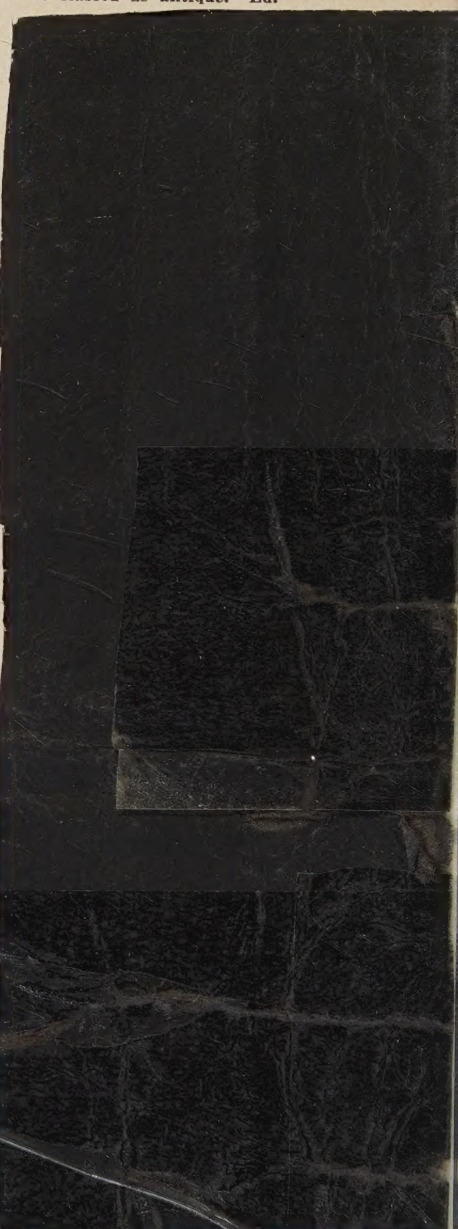
FASTER NASH

I have a Nash out of which I am trying to coax a little more speed. Can you suggest anything better than S.A.E. #90 hypoid oil for the rear end? Can you suggest a carburetor that has adjustable needle valves like a motorcycle carburetor? I have a Winfield SR but it won't idle.

Quincy, Mass. Laurence L. Lermond

The very slight difference in drag of a lighter lubricant in the rear end of your Nash might add 1 mph to the top speed and wouldn't be worth the risk of damage.

You can get a Stromberg carburetor for most cars and some parts houses have an externally adjusted needle valve to replace the fixed jets on this make. I had one once and the trouble is that it is very easy to run too lean before you can get a mileage check—results, burned valves but quick! A fixed jet is much better because you usually only go about one step leaner at a time and there is no temptation to give it another turn. Carburetors have improved tremendously in the past 20 years, bu few people seem to realize that 100 hp car weighing 3500 lbs. are giving equal or bette mpg than the 40 hp, 2400-lb. car of 1929. O this gain, a part at least can be attributed t road load performance of carburetors. Bot Winfield and Linkart carburetors should nov be classed as antique.—Ed.



MUNTZ HAS HIDDEN JET?

"As for speed, Muntz says the Jet does 12 mph . . . going from a standing stop to 8 mph in 9 seconds."

"One of the important luxury features is built-in refrigeration compartment."

—THE DETROIT NEWS, June

The above, which appeared in this evening' paper, seemed humorous enough to send alon for your solemn consideration.

Perhaps the note about the acceleration im plies that the sobriquet "Jet" is somewhat mor than that, and that cunningly hidden below th built-in refrigeration compartment (my gooc ness, how have the doughty competitors at L Mans, Silverstone, Monza, Watkins Glen, et a managed to struggle along all these years with out that?) is a J-57 or a Nene.

Detroit, Michigan John Knox Sinclai

AUTOCAR Road Test of the Ferrari 212 give 16.2 seconds for 0 to 80 mph . . . The MOTO Road Test of the Jaguar XK-120 was 15.7 se onds. Both have much better wt/hp ratio.—Ed

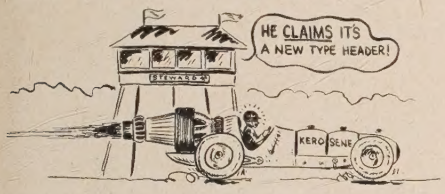
CORRESPONDENCE

PVT. TOOMER SOUNDS OFF

Your coverage of the Palm Springs road race, [May R & T] was very good — but, you have me wondering about the "Altemus Special and its banking wheels." the least you could have done was say something about them!

What is all this about a 1951 Mercer? I consider it mighty low of you guys to hint at it and say no more. People get mailed things for crimes like that! . .

Personally, for sprints and such things as the "Indie" 500, I prefer things like this.



Others, of course, like bore—lots of bore.

—Then there is the "blower" school—

and who wins? Is it . .

Nope. It's . .

Camp Gordon, Georgia — John E. Toomer

The Altemus "Auto-banker" was described in the November '50 issue of Motorsport. As you now know, the '51 Mercer was a figment of Dick Teague's imagination.—Ed.

BOOKS AVAILABLE

With reference to Mr. P. S. de Beaumon't article "The Ten Greatest Motor Books" appearing in the June 1951 issue of Road and Track, in which it is stated that "L'Histoire de la Locomotion Terrestre" is available at about $25 per volume; I feel that in the interests of your readers, I should advise you that I can supply new copies of these volumes at $14 per volume postpaid to any address.

Lyndhurst, Lucastes Avenue
Haywards Heath, Sussex — Vivian Gray
England

AUSTIN OWNER PROVES ECONOMY

The statements made by your Technical Editor [Misc. Ramblings, July R & T] regarding "so-called economy cars" certainly do not agree with my experiences.

Shortly after I purchased my 1950 Austin A-40 Sedan, I decided to keep a complete and accurate record of mileage and operating costs. A friend had just bought a new American car (one of the "big-three") and I persuaded him to keep a similar record on his car.

At the end of a year's driving, I found the Austin had covered 19,429 miles at an operating cost of $286.29. The larger car went 8,808 miles at a cost of $313.06. Thus, my Austin went 121% more miles for 9% less money . . . or 1½c per miles for the Austin against 3½c per mile for the larger car . . . over **twice** the mileage for **less** total cost.

Both operation costs included gas, oil, lube, and upkeep but not insurance or depreciation. The large car received free lubes from the dealer for 5,000 miles.

Altho my average mileage is about 30, I have exceeded 40 mpg upon occasion.

Encino, Calif. — Curt Parker

ROAD and TRACK

The Motor Enthusiasts' Magazine

ANNUAL MODELS

The annual model change has come to be expected from all American manufacturers. This practice is costing the American public millions of dollars each year. Henry Ford demonstrated many years ago that if the design were "frozen" the cost could be drastically reduced.

An important factor in today's high prices is the astronomical cost of new-tooling. Even minor face-lifting runs to 5 or 10 million dollars . . . Ford spent many times that on the drastically redesigned 1949 model.

Yearly styling changes are questionable from an aesthetic standpoint. A new model car is announced. The following year the manufacturer feels that he must have a new model to obsolete last year's car. So they make a few changes which almost always are unhappy and completely ruin a previously well-balanced design.

A further point in this discussion is the tendency to cheapen the product, with consequent short life. Whether you like British cars or not, there is no denying that they are built to last, for a consumer who actually resents model changes which obsolete his car.

Postwar models are, with few exceptions, getting more and more difficult and complex to service, and the condition of cars even two years old is an index of tremendous maintenance costs ahead for the late model used-car buyer.

It seems high time that the American purchasers should voice their opinions on asinine model changes and demand cars having durable styling and construction.

REPLACE HP RATING WITH TORQUE RATING

After a peaceful lull, the battle of "claimed horsepower" is again being waged. With the introduction of new powerplants, the ad writers have been unleashed and are now gaily tossing horsepower figures about.

It is all very confusing—first, because the conditions of the dynomometer test are not generally made known (temperature, equipment, tuning, etc.) and secondly, because it is torque rather than horsepower which furnish the characteristics which the public usually attribute to "power."

In normal non-competitive driving, acceleration and hill climbing ability are generally more useful than top speed . . . both are largely dependent upon torque. The characteristics of American cars are largely due to high torque ratings . . . actually the horsepower to displacement ratios are quite poor. So . . . torque ratings give the story much more clearly.

In the case of European economy sedans, it is the lack of torque which slows them down on hills and makes necessary the more frequent use of gear change. Again, bhp ratings mean little.

Torque readings are extensively used in rating trucks and the lighter trucks frequently use the same engine as the passenger cars by the same manufacturer. Truck users are able to prove torque ratings by mathematically figuring the grade/load ability of the unit, and since this positive check is present, there would be less "cheating" on figures.

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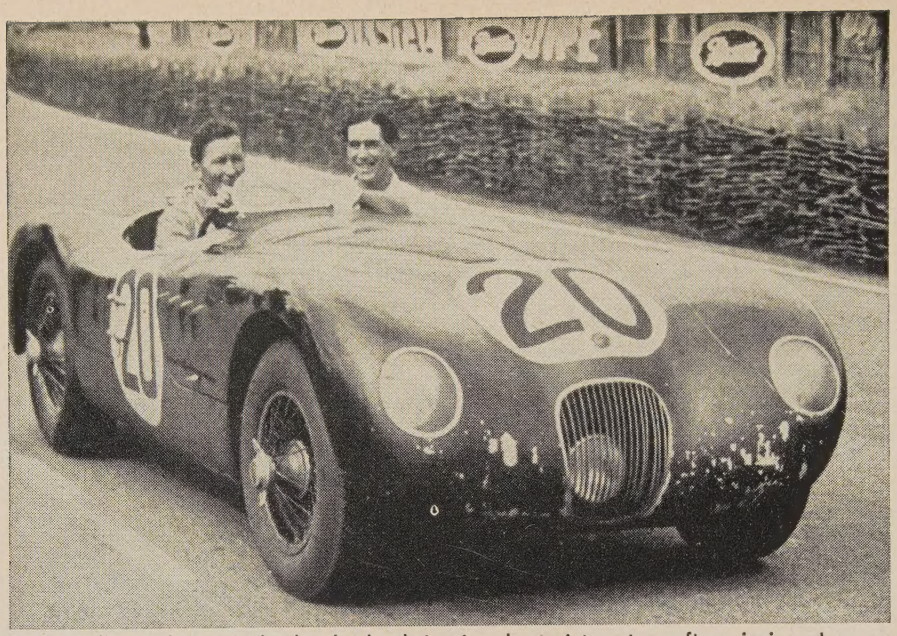
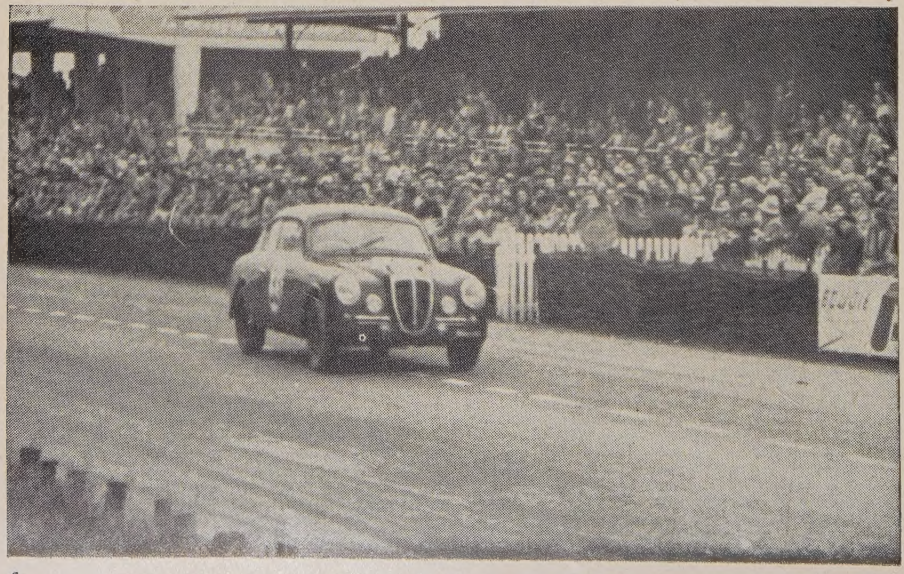
Le Mans

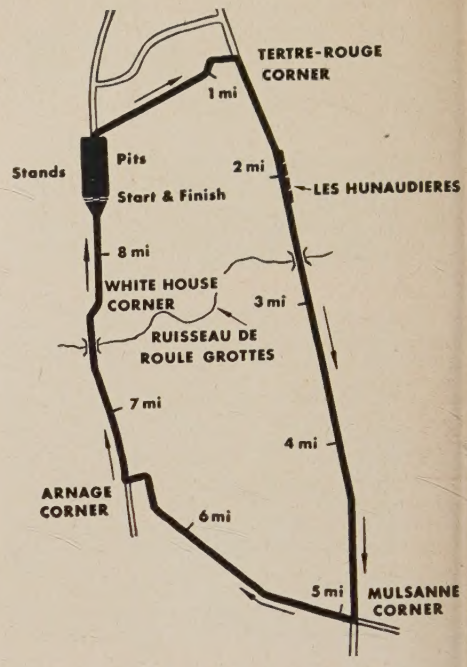


Peter Walker and Peter Whitehead take their triumphant victory tour after winning at an average of 93.49 mph (2,244 mi. in 24 hours), in the new Jaguar XK-120-C competition model.

Monopole 614 cc Handicap winner driven by de Montremy and Hemard. Note damage.

Lancia "Aurelia" 1995 cc driven by Count Lurani & G. Bracco to 12th place, and class victory.





At the stroke of 4 p.m., Charles Faroux dropped the tri-color . . . the impatient drivers, lined up opposite the pits, dashed across the road, jumped into their cars, started up, and sped away for the start of the 19th Grand Prix d'Endurance at Le Mans, France. A bevy of Talbots and Allards shot into the lead.

At Lap I (4 p.m.)

1.	Gonzales	Talbot (lead 4 secs.)
2.	Moss	Jaguar XK 120 C
3.	Cole	Allard Cadillac
4.	Chaboud	Talbot
5.	Johnson	Jaguar XK 120 C

The strategy of the Jaguar team became apparent. Sterling Moss was driving "all out" to force the Talbots and Allards into an engine-breaking dual. Driving with great skill, Moss passed Gonzales and began widening his lead. Leslie Johnson kept the companion XK-120-C in a forward position but maintained a more conservative pace. On the third lap, Cole bent his Allard on a sandbank but continued running.

Moss continued to increase his pace, finally setting a record lap at 105.24 mph. By 8 p.m., a drizzle had begun, Gonzales had refueled and dropped back, and the Jaguar team was lying 1-2-3. The Johnson-Biondetti Jag soon lost oil pressure and retired. Darkness closed in and rain began pouring down.

At 10 p.m. (6 hours)

1.	Moss	Jaguar	71 laps
2.	Whitehead	Jaguar	70 laps
3.	Rosier	Talbot	69 laps
4.	Gonzales	Talbot	69 laps
5.	Hall	Ferrari Amer.	67 laps

Driving by the drenched beam of yellow* headlights, quite a few narrow escapes occurred. The Rand-driven Cunningham spun about in traffic, hitting a fence and sustaining damage to the steering column which later broke at low speed. George Huntoon brought another Cunningham into the pits with a bad clutch and gearbox but managed to continue for awhile. The rain also continued.

At Midnight (8 hours)

1.	Moss-Fairman	Jaguar	92 laps
2.	Whitehead-Walker	Jaguar	91 laps
3.	Gonzales-Marimon	Talbot	90 laps
4.	Rosier-Fangio	Talbot	87 laps
5.	Hall-Navone	Ferrari Amer.	86 laps

*required by 1951 Le Mans rules

The terrific pace set by Moss had taken its toll from the opposition but now Moss' luck ran out, along with his oil pressure and rods. Rosier out . . . Aston-Martin moving up.

At 4 a.m. (12 Hours)

1.	Whitehead-Walker	Jaguar	134 laps
2.	Gonzales-Marimon	Talbot	127 laps
3.	Walters-Fitch	Cunningham	126 laps
4.	Hall-Navone	Ferrari	125 laps
5.	Macklin-Thompson	Aston Martin	125 laps

Gonzales dropped out . . . the Walters-Fitch Cunningham moved into second. Aston-Martins and Nash-Healey also moving up.

At 8 a.m. (16 Hours)

1.	Whitehead-Walker	Jaguar	178 laps
2.	Walters-Fitch	Cunningham	170 laps
3.	Macklin-Thompson	Aston Martin	169 laps
4.	Rolt-Hamilton	Nash-Healey	168 laps
5.	Meyrat-Mairesse	Talbot	168 laps

The Jaguar was now leading by 10 laps. Engine trouble plagued the Cunningham which made frequent pit stops. Levegh's Talbot was steadily gaining.

At Noon Sunday (20 Hours)

1.	Whitehead-Walker	Jaguar	224 laps
2.	Meyrat-Mairesse	Talbot	214 laps
3.	Macklin-Thompson	Aston Martin	213 laps
4.	Walters-Fitch	Cunningham	212 laps
5.	Rolt-Hamilton	Healey	212 laps

The XK was now 11 laps ahead and began to slow down. Retirements were frequent and several cars, including the Cunningham and the remaining Allard, limped slowly about the course. Britons present were overcome with joy as the checkered flag dropped on the Walker-Whitehead Jaguar and the British national anthem blared forth.

Another remarkable performance was put up by the five Aston-Martins which finished 3rd, 5th, 7th, 10th and 13th.

19th Grand Prix D'Endurance
(Lap distance 8.384 miles)

14th Annual Cup for Distance Covered

			Miles
1.	Jaguar	(Walker-Whithead)	2,243.87
2.	Talbot	(Meyrat-Mairesse)	2,166.20
3.	Aston Martin	(Macklin-Thompson)	2,159.98
4.	Talbot	(Levegh-Marchand)	2,151.90
5.	Aston Martin	(Abecasis-Taylor)	2,143.20
6.	Nash-Healey	(Rolt-Hamilton)	2,142.58
7.	Aston Martin	(Parnell-Hampshire)	2,113.38
8.	Ferrari America	(Chinetti-Lucas)	2,068.01
9.	Ferrari	(Mahe-Peron)	2,048.75
10.	Aston Martin	(Mann-Goodall)	1,985.99
11.	Jaguar	(Lawrie-Waller)	1,980.40
12.	Lancia	(Lurani-Bracco)	1,971.08
13.	Aston Martin	(Clark-Scott)	1,970.0
15.	Ferrari	(Winterbottom)	1,960.7
15.	Ferrari	(Simon-Haig)	1,952.9

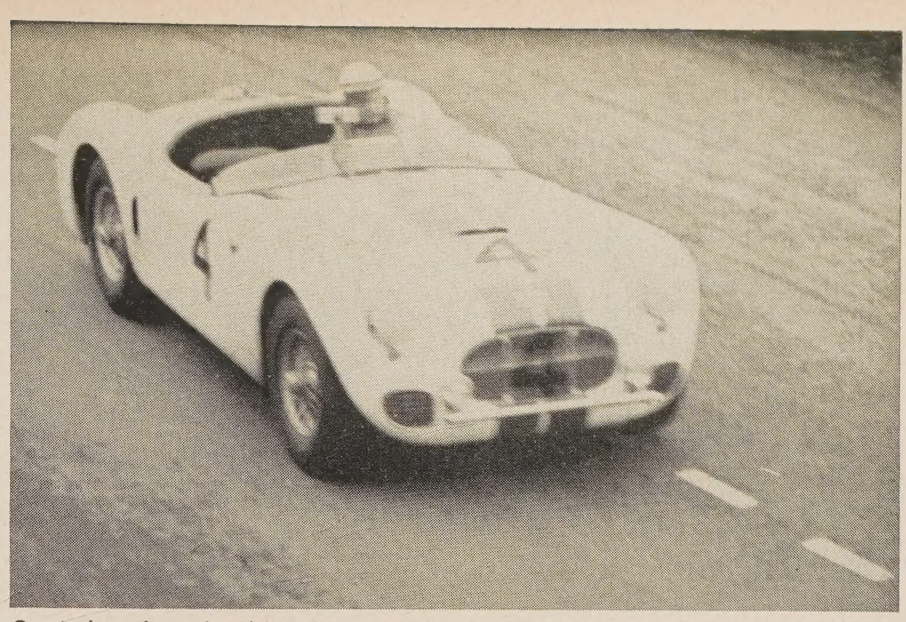
16. Ferrari (Moran-Cornacchia) 1,924.5 miles; 17. Talbot (Chambas-Morel) 1,911.6 miles; 18. Cunningham (Walters-Fitch) 1,886.3 miles; 19. Frazer Nash (Stoop-Wilson) 1,837.7 miles; 20. Porsche (Veuillet-Mouche) 1,776.7 miles; 21. Panhard-D.B. (Bonnet-Bayol) 1,737.9 miles; 22. Bentley (Hay-Clarke) 1,728.4 miles; 23. Jowet (Becquart-Wilkins) 1,717.6 miles; 24. Renault (Landon-Briat) 1,668 miles; 25. Monopole (de Montremy-Hemard) 1,643.2 miles; 26. Dyna-Panhard (Gaillard-Chancel) 1,610.4 miles.

5th Annual Cup for Performance on Handicap Figure of Merit

1.	Monopole	(de Montremy-Hemard)	1,376
2.	Dyna-Panhard	(Gaillard-Chancel)	1.351
3.	Jaguar	(Walker-Whitehead)	1.326
4.	Aston Martin	(Macklin-Thompson)	1,316
5.	Panhard-D.B.	(Bonnet-Bayol)	1.308
6.	Renault	(Landon-Briat)	1.306

Retirements (larger classes only)

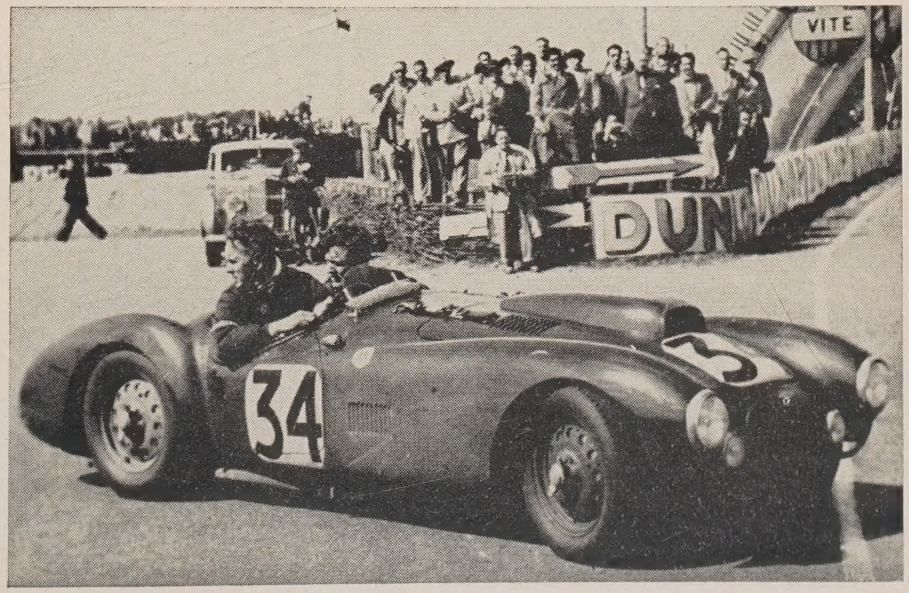
LAP	DRIVER	CAR	CAUSE
5	Lariviere	(2.6 Ferrari)	Fatal crash
19	Goodacre	(Jowett Jupiter)	Burnt valve
24	Delettrez	(4500 Diesel)	Engine
26	Manzon	(1500 Simca)	Camshaft
29	Chiron	(4100 Ferrari)	Disqualified
33	Chaboud	(Talbot)	Radiator
48	Wisdom	(Jowett Jupiter)	Head Gasket
49	Trintignant	(1500 Simca)	Engine
50	Johnson	(Jaguar XK-120-C)	Oil Pressure
75	Bouchard	(2-litre Ferrari)	
76	Cunningham	(5.4 Cunningham)	Clutch
77	Scaron	(1500 Simca)	Engine
80	Phillips-	(1250 MG)	Burnt Piston
88	Leblanc	(3.6 Delehaye)	Engine
92	Moss	(Jaguar XK-120-C)	Oil Pressure
92	Rosier	(4.5 Talbot)	Split oil tank
98	Rand	(5.4 Cunningham)	Crash
125	Hall-Navone	(4.1 Ferrari)	Battery Dead
128	Gonzales	(4500 Talbot)	Head Gasket
130	Veyron	(1500 Simca)	Engine
132	Spear-Claes	(4.1 Ferrari)	Clutch
138	Caron	(1100 Simca)	Engine
134	Allard-Cole	(5.4 Allard-	Clutch

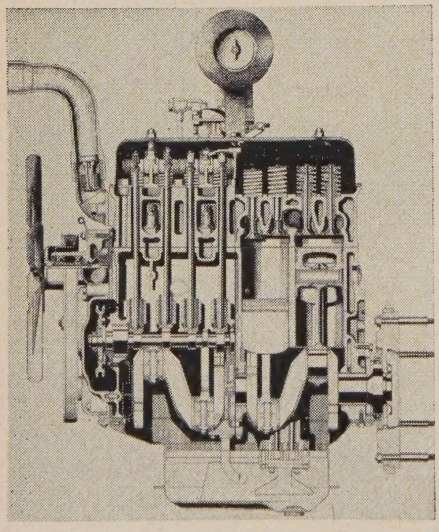


Cunningham driven by Phil Walters & John Fitch finished 18th. Powered by a Chrysler V-8, this car was in 2nd place for many laps. The two other Cunninghams failed to finish; one with gearbox trouble, and the other with a broken steering column. Better luck next year!

Above, the American, Charles Moran, and Cornacchia on Ferrari 2563 cc finished 16th.

Below, Mille Miglia Frazer-Nash driven to 19th place by R. Stoop and P. Wilson.





Simca 9 ARONDE

Seldom has a new European car appeared which seems so well suited to the American market as the new Simca "9". Called the *Aronde* or "Swallow," this car combines excellent styling with sound engineering and better-than-average performance. Rated by the factory with a top speed of 75 mph, the *Aronde* is a quality car in the Hillman, Austin A-40, Ford Consul size, (97" wheelbase). U.S. delivered prices are not available at this time. The engine is a 1221 cc ohv four, developing 45 hp at 4400 rpm. New on this model are the counterbalanced crankshaft and thin-wall steel backed bearings, which make a great improvement over eariler versions in smoothness and durability.

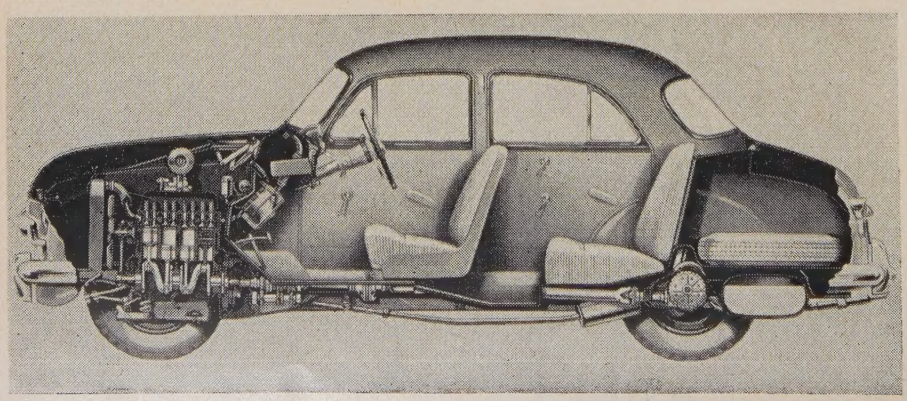
A four-speed syncromesh gear box is used, with a steering column change lever. The instruments are concentrated in a semi-circular group behind the steering wheel, and a blinking light type direction signal is operated by a lever on the left of the steering column . . . in much the same fashion as current American cars.

A steering column lock works on the shifting mechanism as well as the ignition. The lock has two positions: one which locks the gearbox in neutral (for garages and parking lots) and one in reverse gear (for hills).

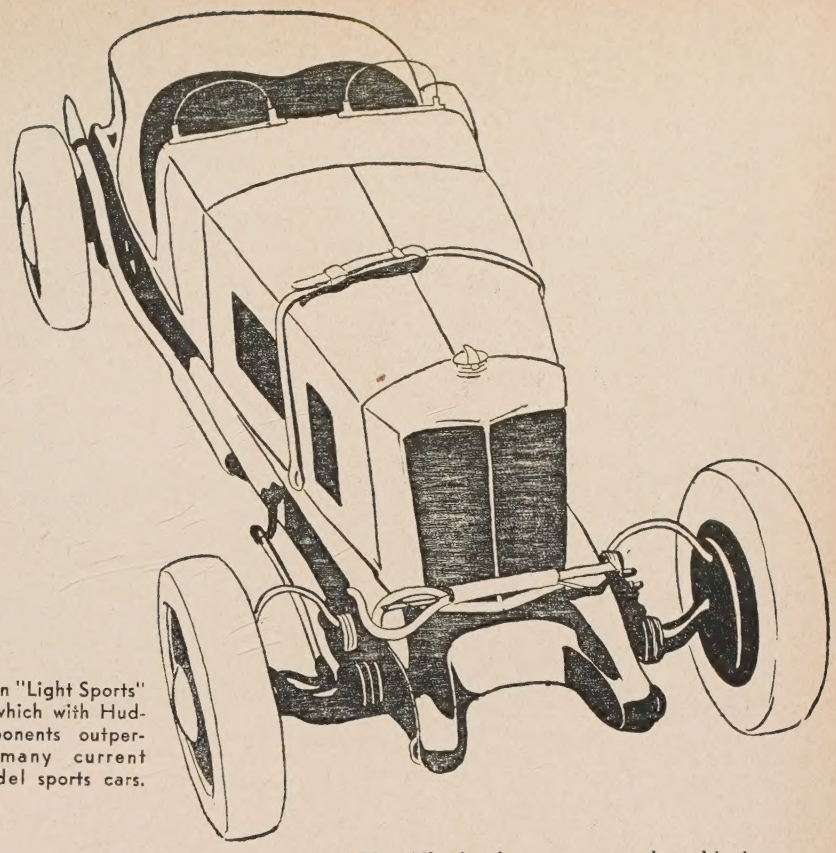
Following the current trend in European light- weight production cars, the Simca has an integral body-frame construction. Built-in heating-ventilation system, front opening doors, large glass area, splayed shocks with anti-sway bar, and a large trunk are features which will appeal to Americans. So will the gas tank filler which is located in the tail light housing *a la Cadillac.*

Simca has gone thru an unprecedented tool-up and expansion program in preparation for this car, which will be produced in greater volume than any other French car in this class. Prior to public announcement, over 1000 cars were already built, and production is proceeding towards a goal of 180 to 200 cars per day by this autumn.

The body design, even down to stamping details, looks very similar to the Fiat 1400 (Sept. 1950 *Road and Track*) from Italy. Thru the Marshall Plan, tooling for both of these cars was purchased in America, and since Simca and Fiat have cooperated on such matters in the past, both companies probably are sharing the cost of these dies, which are the most expensive item in car production. Catalog weight is only 1914 pounds, which is very low for a family sedan of this type.



Misc. Ramblings by the Technical Editor



The Railton "Light Sports" of 1935, which with Hudson components outperformed many current 1951-model sports cars.

The Indianapolis race this year demonstrated at least one thing—piston speed is more important than cubic inches. The winning car had a 241 cu in. Meyer and Drake engine with a bore and stroke of 4¼ x 4¼ instead of the usual dimensions of 4 5/16 x 4 5/8. Thus, where the normal 270 cu in. engine turns 5200 rpm at a piston speed of 4000 ft per minute, the 4¼ stroke engine can run just as safely at 5650 rpm. With only 7 cars running after the winner crossed the line, Wallard's short stroke engine literally ran the legs off all other competition. This demonstrates the axiom that developed horsepower is primarily a function of valve area and rpm. For convenience it is usual practice to substitute piston area for valve area, since the two vary in direct proportion, and the cylinder bore is usually known, while valve sizes are not often publicized. Simple proof of this theory can be borne out by comparing the 4½ litre Grand Prix Ferrari engine to our Meyer and Drake engine of equal displacement.

Speaking of Ferrari, great interest attaches to the first deliveries of the 4.1 litre sports model to this country—supposedly by the time this appears on the newsstands. Rated at a nominal 220 bhp and weighing about 2000 lbs. they should produce some interesting competition by Watkins Glen time (Sept. 15th). Nevertheless, a Chrysler-Allard with only 265 bhp and 2400 lbs. will equal the 9.1 lbs. per hp of the new Ferrari.

One of the avowed purposes of the Sports Car Club of America is to promote and further the popularity of the sports car—a worthy aim. I have always felt that a desirable goal would be to increase the popularity of the type to the extent that one or more of our Detroit concerns would condescend to produce a genuine sports car for the price of a convertible sedan (they certainly aren't coupes anymore). My personal worry here is that Detroit may be like the writer of the letter in last month's Correspondence—who so obviously slipped on the important difference between a "sport" and a "sports" car. Sure, LeSabre and the XP-300 are sport cars—but sports cars, never! I can just see one of those monsters at Watkins Glen, with all that weight forward, sliding off the road at the first turn, or managing the first turn, and winding up down an escape road with red hot drums expanded well beyond all ability of the linings to reach them! I'll bet that a Mark 2 MG could beat the 300 bhp Le Sabre in 10 laps at Watkins Glen.

Defining a sports car has never been a simple matter, and the problem has now become doubly difficult. This is because the intensity of sports car road racing activity has become so great that a "new breed of cats" has evolved. It used to be that a sports car could be defined (tho not too well) by merely saying that it was a car designed and built for use in every day driving as well as sports car competitions. The present situation has developed two distinct types of sports cars: the all-out "competition" type, and the more comfortable "touring" type. In the first category we may cite the Allard J.2 and Barlow's Simca as examples, while their opposites might be considered to be the ubiquitous Jaguar XK-120 and the MG. It is now virtually hopeless to enter a stock touring sports car in a competition with much chance of even a "show", a fact covered in last month's editorial asking for at least one event for the stock sports car owner.

In answer to several letters, the 3-litre 6 cylinder engine design shown last month had a bore and stroke of 3.30 x 3.50. The standard cylinder head (7 to 1) was to develop an estimated 90 bhp at 4000 rpm, while the inclined valve sports head (with 8 to 1 C.R. and 2 carburetors) was to develop a conservative 125 bhp at 5000 rpm. An output approaching 1 hp/cu in. (180) should be possible with further development.

Excerpt from letter in Jan-Feb 1951 Sports Car:

"In a recent regional news letter, the cornering powers of our 'J.2' are compared with another make and the fact that the 'J.2' holds the road like a leech up to certain speeds when it slides without warning, is mentioned.

"Mr. Allard asks me to say that this is well known, but the speed at which this sliding occurs is greatly above the speed at which the other make mentioned starts to break away. At the speed where this breakaway occurs on other makes the 'J.2' is rock steady and, if it is desired to corner at the maximum speed possible with our car, this must be done in the usual Grand Prix manner, in a four-wheel drift. The required angle of drift being maintained by conjunctive manipulation of steering and throttle.

"When this technique is mastered we doubt if there is a faster sports car through corners extant than the 'J.2' Allard.

"H. J. Biggs, Tech. Ass't., Allard Motor Co."

	No. Cyls.	Bore	Stroke	Cu. In.	Piston Area In.	bhp	rpm at 4000 rpm	fpm Piston Speed
Ferrari	12	3.15	2.91	271	93	380	7500	8250
Meyer Drake	4	4.312	4.625	270	58.5	325	5000	5200

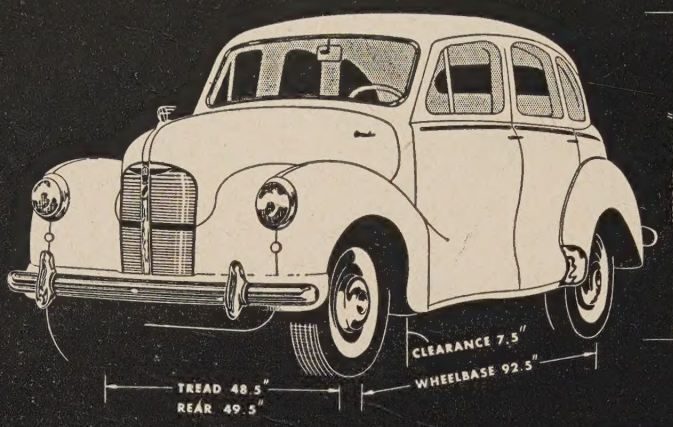
ROAD TESTS

Going thru some of my files the other day, I came across a pair of "old favorite" road tests. The first was the Railton "Light Sports" model of 1935. Quite a few cars of this make were built and sold in England during the middle thirties by Reid Railton, the well-known designer. The formula was very simple: take a 1935 Hudson 8 chassis, modify slightly, add a four-seater body weighing 110 lbs, and tread gently to avoid accelerated results. The engine had 7.75 to 1 compression, Vertex ignition and a special Solex carburetor. An axle ratio of 3.3, a new steering gear, larger brakes, and an extra set of friction shocks, covers the major chassis changes. The completed car weighed 2128 lbs, and the performance was something! Zero to 60 in 8.8 seconds, zero to 90 in 23.0 seconds, the standing ¼ mile in 17.4 seconds, and 10 to 60 (high gear only) in 13.2 seconds give you the idea. Maximum in first gear was 50 mph; in second, 80 mph; and in high, 110 mph. Such was the Railton, as recorded by *Motor* for Nov. 12, 1935 . . . the modern Cad-Allard isn't so much better at that.

The other road test was in a different category. The car, a 1930 Cord convertible 4-door sedan. The top speed? 90 mph, or maybe 100? No, it clocked 76.92 mph! The magazine, *Autocar* for May 22, 1931.

ROAD and TRACK ROAD TEST No. F-6-51

Make: Austin **Model: A-40**



Price: $1663 del. L.A.
Horsepower: 40 at 4300 rpm
Displacement: 1200 cc (73.2 cu in.)
Bore: 2.58 in.
Stroke: 3.50 in.

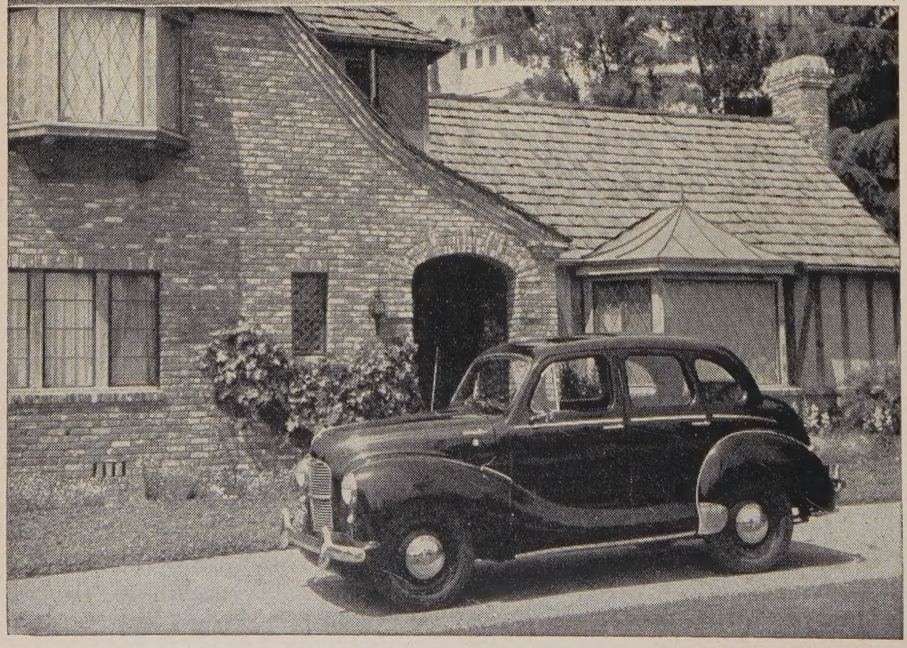
Dry Weight: 2156 lb.
Overall length: 153 in.
Overall width: 61 in.
Front seat width: Individual
Rear Seat width: Individual

PERFORMANCE

ACCELERATION		MAX. SPEEDS	
Standing ¼ mile	24.4 sec.	2nd	34 mph
0-50 mph	21.9 sec.	3rd	53 mph
0-60 mph	29.4 sec.	4th	73..mph
10-60 mph (3rd gear)	35.5 sec.		

SPECIAL DATA

60 mph — 4081 rpm 2500 fpm piston speed — 63 mph



When *Road and Track* decided to test the Austin, thoughts turned to John Foster, super-enthusiast and President of the Four Cylinder Club of America. John drives a stock A-40 Sedan which now has 3,000 miles on the odometer. Graciously offering his car to the staff, said he, "I don't care what trial you subject the car to . . . all I ask is that you put enough miles on it to thoroly familiarize yourself with its virtues." *Road and Track* did.

It is axiomatic among Austin owners that true appreciation of the car is to be gained *only* after driving it several thousand miles. A marvelous loosening up of the car takes place at somewhere between five and eight thousand miles. Up to this point of maturity, there is a certain tightness and the driver feels he would like the engine to rev easier.

To get on with our appraisal, several faults should be mentioned. With those out of the way, we shall proceed to the actual conditions of the test.

The car is equipped with "hydro-mechanical" (hydraulic front, mechanical rear) brakes, which, even tho they amount to a definite safety factor, require far too much foot pressure to appeal to the modern driver. These brakes will stop the car, as was proved during the test, but hydraulics *both* front and rear would be a definite improvement.

The front pillar between the door and the windshield is wide enough to successfully obstruct the driver's view and to constitute a definite hazard. It was irritating to sit well forward and shift about in order to see sideways clearly. It is not unusual to find doors which still open and shut on Austins which have rolled over several times . . . the credit is probably due this extra sturdy member. It's a case of having the added strength and decreased visibility, or less strength and greater vision as with modern practice.

It is a well known fact among Austin owners that "you can't boil 'em, no matter what you do." Actually, in all the tests the water temperature never rose over 180 degrees F. The acceleration was what the Britons call "brisk" . . . ; a standing ¼ mile in slightly over the time recorded for MGs. In traffic, one is compelled to use the four-speed gear box shrewdly if he expects to keep up. However, once the "feel" of running thru gears is attained, the car will move across town quicker than most due to its maneuverability. Because of its size, parking is no problem at all, since the fatter American cars habitually pass up "Austin-sized" spaces.

The bumpers have been considerably strengthened since the A-40 was first introduced here and the policy of the company seems to be to gradually add improvements as the necessity for them becomes apparent. Among these have been larger brakes, front window ventilators, foam rubber seats and a more comfortable-sized steering wheel.

The trunk space is well thought out and its luggage-carrying capacity can be more than doubled by the rear deck lid which, hinged at the bottom, swings down, making a 500 pound capacity platform.

A word should be said about the handling characteristics of the A-40. In the Austin, one may sit back and cruise hour after hour in relative relaxation, correcting very little. The car understeers on the straight which means there is little tendency for the rear end to "walk around."

To sum up, the Austin A-40 Devon was driven as hard as any car *Road and Track* has yet tested. It ran as well (or better) at the end of the test as it did at the beginning. It can be recommended as economical, sturdy, roadworthy and comfortable.

Have you ever driven a Sunbeam-Talbot drop-head* with the top folded to the *de ville position?* The one we picked up from Peter Satori's Pasadena showroom made us feel really elegant . . . and completely at ease alongside Jaguars and Lago-Darracqs.

Photographs of the Sunbeam-Talbot (pronounced tall-but) always produce a strange phenomenon . . . . the car appears larger and heavier than it really is. Even when you actually inspect the Sunbeam in person, it does not seem like a small car nor even a lightweight. Rather let us say that it is compact and very solidly built. Furthermore, the swept lines of the body give the appearance of a "going car", which this 1951 model seems to be, in contrast to the 1950 version. The styling represents a very good blending of "streamlined" and "traditional" design. It is particularly good when viewed from the rear three-quarter.

The Sunbeam-Talbot must be fairly appraised as a high speed, economical touring car — especially suitable for rallies, and events where driving comfort is of paramount importance. The success of this marque in the Monte Carlo and Alpine Rallies on the continent is, therefore, to be expected.

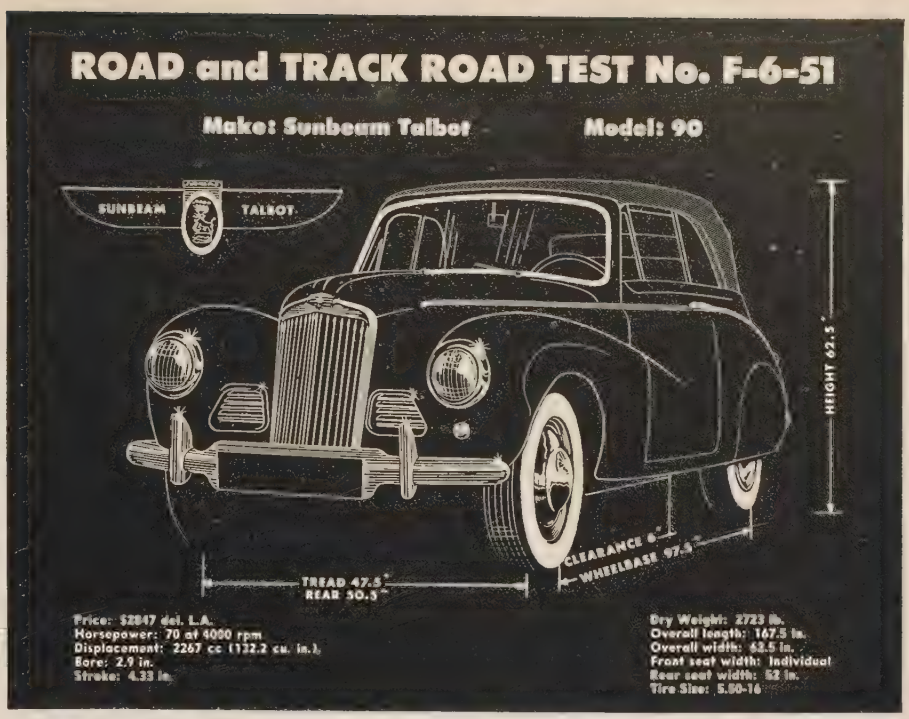
The interior of the Sunbeam is in typical Rootes Group fashion, with natural leather upholstery, deep-pile carpeting, and very comfortable seating position. Hand-brake is located between the seats in the sports car manner. Gear shift is of the column type, and employs the same "backwards" shift pattern as the Hillman Minx. Probably owners of these cars eventually become accustomed to the motion (close to wheel for 3rd & 4th, and away for 1st and 2nd) but none of our staff liked it. Since the front seat is split, and intended for two people only, we do not see the point in a steering column shift. Particularly nice was the instrument panel with its large fan-shaped speedometer and pleasing faired-in design.

Standing starts are normally made in second gear, with first used on steep hills and in emergencies. Top gear (3.9:1) is exceptionally quiet and smooth, and a comfortable cruising speed in this car on the open road is 60-65 mph. It must be stated in the interest of fairness, that the test car had its head milled to raise the compression from 6½ to 1 to approximately 7½ to 1, and a straight-thru muffler was fitted. Performance, therefore, is somewhat better than a strictly stock model. Milling the head of this engine is recommended for American use, if "premium" gasoline is used.

Driving the Sunbeam-Talbot is probably the closest thing to driving a large American car, yet retaining all the advantages of a small economical car. For comfort the Sunbeam leaves little to be desired and the convertible tested was almost completely free of the rattles normally associated with this body type. Driving to the test area brought out the excellent high speed characteristics of the Sunbeam, the engine being remarkably quiet at all speeds. Cold early morning temperatures were encountered and the efficient heating system was greatly appreciated. During the acceleration and top speed test, high winds affected performance figures considerably; however, averaging the down-wind and up-wind figures give a reasonably accurate index of performance.

Unfortunately, the steering is geared lower (in the American manner) than most British cars, which prohibits use of "sports car" cornering techniques. However, steering is light, and the lack of sensitivity is not noticed in normal use.

* Convertible to you.



PERFORMANCE

ACCELERATION

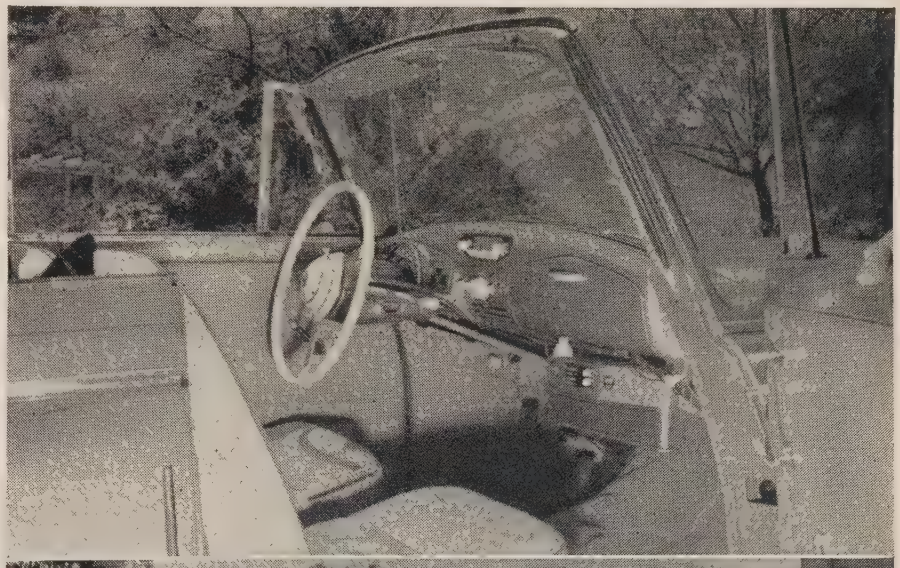
Standing ¼ mile	21.4 sec.
0-50 mph	13.6 sec.
0-60 mph	20.2 sec.
10-60 mph (3rd gear)	30.5 sec.

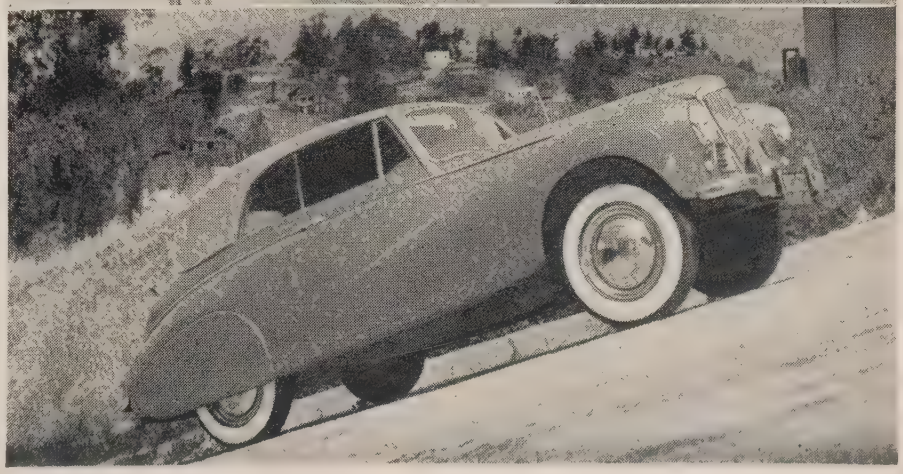
MAX. SPEEDS

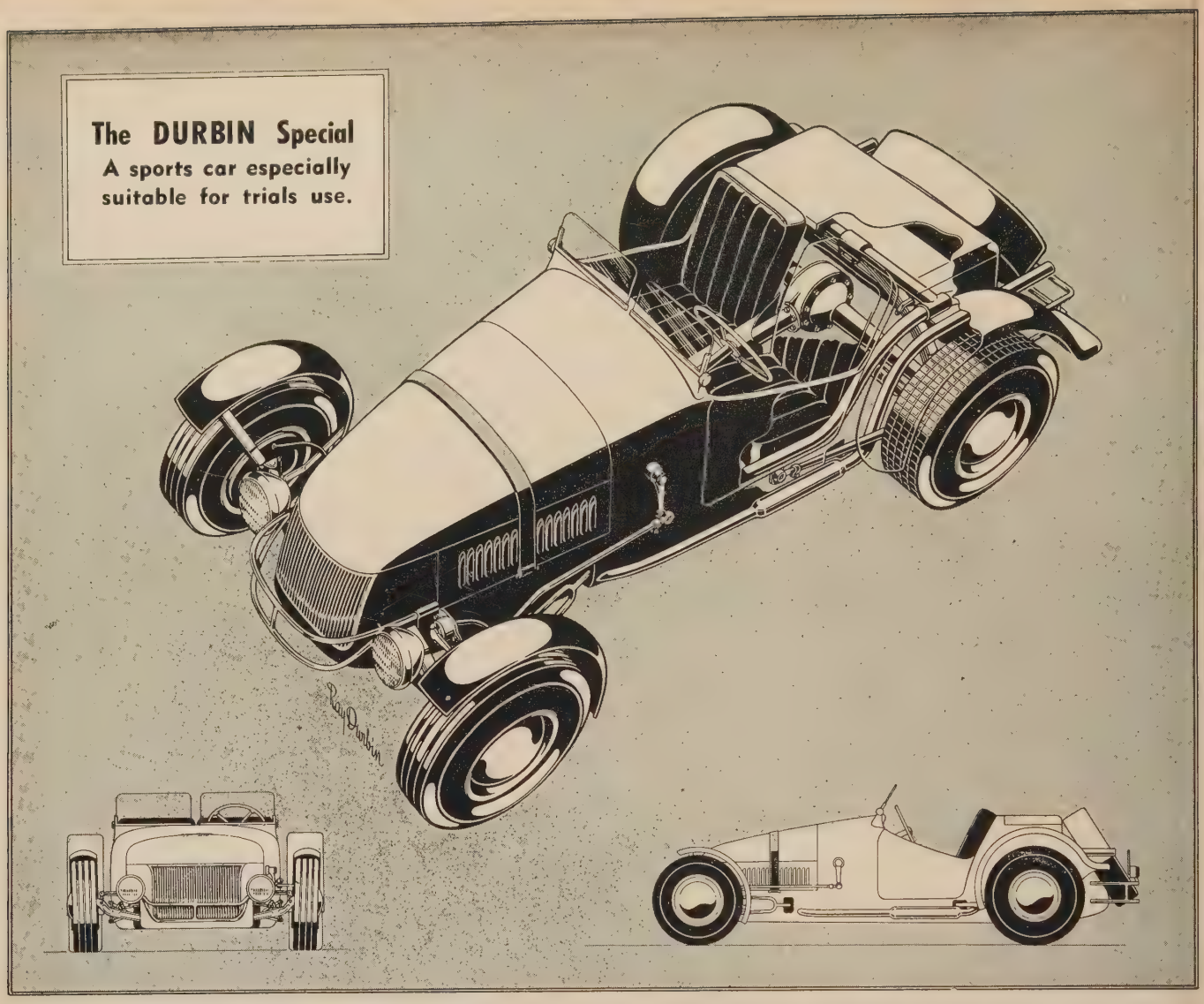
2nd	44 mph
3rd	70 mph
4th	87 mph

SPECIAL DATA

60 mph — 3046 rpm 2500 fpm piston speed — 68.5 mph







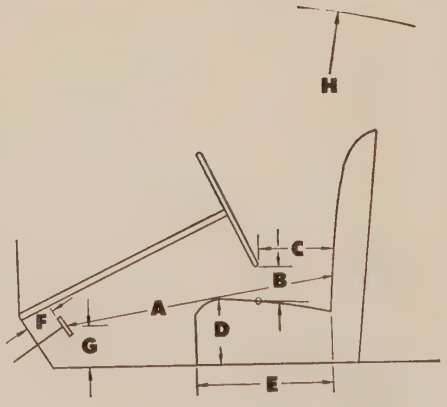
DESIGN FORUM

It is surprising that American enthusiasts, particularly those favoring sports cars using American components, have not taken to "trials." With inexpensive rugged chassis easily available, a cornucopia of speed equipment, and millions of suitable locales, the over-hill, cross-puddle, around-boulder, and down-dale trial should be a natural for the rugged Yank driver.

A combination trials and sports car is suggested by Ray Durbin of Seattle, Washington. Based on reliable Ford units, a "pukka" body carries the passengers well aft while luggage rides in a MG-like locker. An excellent view of the road (or trail) is provided by a sharply-sloped hood and by cycle-type fenders. To get things in the right place to begin with, a tubular frame will tie the V-8, the special body, and Ford running gear into a very potent package. The basic resemblance to the modern track roadster should not be overlooked . . . . nor under-rated.

EDITOR'S NOTE

In the future, entries for Design Forum will also be judged on conformity with requirements for a practical seating position. Many sketches submitted in the past failed to appreciate the necessity of correct proportions to provide for efficient driving with some degree of comfort.



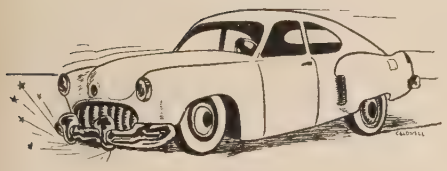
Individual preferences vary considerably, but the most important dimension is A (see sketch). This should be at least 37 inches for a seat high above the floor, as in American stock cars and closer to 39 inches for a low sports car seat. Dimension D can be as low as 4 inches (with pneumatic cushions) but 6 inches is a better minimum, and even then a minimum G dimension of 6 inches means that the seat is barely on a level with the pedals and this is not good. Dimensions B and C are interrelated in that knee room must be provided for lifting the leg onto the pedals. If B is small, say 5 or 6 inches, then C must be small, in the region of 12 inches. If B is say 8 inches, then C can go to 14 or 15 inches.

Dimension F (foot pedal travel) is all too often overlooked. For ease of control, this should be at least 6 inches on the larger cars, and is usually 7 inches on American stock cars. Squeezing here results in poor mechanical advantages with the clutch and master cylinder linkages and resultant heavy pedal pressures. Dimension F (from seat cushion to roof) should not be under 34 inches . . . too many sports car designs that look good on paper have windshields so low that the driver's head would project well above the top. Dimension E should be at least 18 inches, but on a low seat 20 inches gives much better support under the knees.

Finally, the FIA requirements call for a seat width of 18″ for each cushion and if the car is low, at least 3 or 4 inches should be allowed for the shaft tunnel running between seats. This gives a minimum inside body width of 39 inches, and FIA requires 40 inches. The absurdity of trying to get 40 inches of space between two 6-inch rear tires on a tread of even 52 inches is apparent, but often overlooked.

Steering Phenomena

Weight Transfer



Few cars today have a preponderance of weight on the front wheels, when they are carrying their full complement of passengers, luggage and fuel and are travelling normally on a level road (the most likely exceptions being the front-wheel-drive cars), but the application of the brake changes this state of affairs.

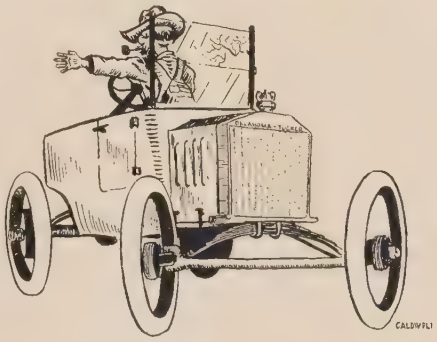
Suppose for instance, that the normal weight distribution is 45% front and 55% rear, and that the center of gravity is two feet above the ground and the wheelbase is ten feet. A deceleration of half "g" will increase the front end weight by 10%, so that the weight distribution has become 55% front and 45% rear. A "g" stop will result in 65% front and 35% rear. Suppose we follow this admittedly rather extreme case a bit further; a "g" stop implies a retarding force equal to the vertical load, or on one front wheel 32½% of the car weight. With a ten foot wheelbase the all-up laden weight is unlikely to be less than two tons, and if the out-of-center point be one inch and the pitman arm length 6½ inches, the load on each spindle connecting rod* (and hence to be taken by each ball joint, at least of the cross-steering system) is 224 lb. Even if this is not the whole story, as the extra load on the front wheels should have increased the self-centering effect of those wheels (unless there has been enough change of caster angle to neutralize this, or even to give the opposite effect—which is certainly not unknown) and the loads involved have certainly increased the bearing loads on the pivot axis of the front wheels and so increased the friction there. A tendency to wander when the brakes are applied does not necessarily imply considerable negative caster angle, it may be caused by faulty and varying brake equalization, or it may be due (especially in heavy braking) to variations in the coefficient of friction between road and tire as between the two front wheels. Moreover, since steering is our first concern (tho not, we hope, anxiety!) it should be mentioned that heavy braking is liable to bring on "tramp" with "front-axled" cars, even when they are normally not subject to such a malady. A very interesting and instructive time can be had by standing at some point on a main road where traffic is compelled to brake, preferably where some of the cars have been going fast, and watching the behaviour of the front wheels and axles of the different cars during this braking.

Finally, two digressions from steering; first the influence of end-to-end weight transference on permissible spring softness. Not really very much can be done about center of gravity height on a small, as compared with a large, car, but the considerable differences in wheelbase will affect the weight transference due to braking, the shorter the wheelbase the greater the weight transference rear to front. Other things being equal, if a given amount of brake "dip" is permitted, then, if no other deeper factors are involved, this implies that the springing must be relatively harder on the shorter wheelbase car. This usually ties up quite well with the fact that the shorter wheelbase car is normally lighter, and the percentage load variation greater, which again usually implies stiffer springs so that there shall not be ridiculous differences between the suspension "one up"* and fully laden.

* drag links for i.f.s.

* one passenger only

Rear-end Steering



This has nothing to do with back seat drivers, nor with the idea occasionally put forward by cranks who want to steer the car from the rear by placing the steering wheels at the tail end. It refers, in fact, to the steering-effect of the rear—and usually intended to be non-steering—wheels.

Since the vast majority of cars have rear axles, let us consider first the ways in which these can offend. Perhaps the easiest to understand is the 'pony-truck' effect of the 'torque-tube' axle, pivoting about the attachment point of the torque-tube by virtue of the slight sideways movement of the axle proper, caused by the application to it of a load (side wind, road camber, or 'centrifugal' in cornering). Admittedly this angle is not likely to be much, but at 90 mph half a degree of steering angle will cause a car to skid sideways.

The second way of 'steering' an axle is to move one end of it forwards in relation to the other, which can be easily arranged by setting the leaf springs (half or quarter elliptic) with the correct (?) amount of camber, eye position, and inclination front to rear. The spring controls the axle at the point of its attachment as if (in plan) it were a lever arm, and the initial inclination of this virtual lever arm is controlled by the three items just mentioned. Unless the 'arm' is initially horizontal, then inclination of the axle to the car (due to roll on corners, or to one wheel passing over a bump or pot-hole) will set up 'steering angle' of the rear axle in relation to the car—and if the lever is horizontal 'two up' it cannot remain so 'four up,' and vice versa. Most cars, therefore, have some of this kind of rear end steering except at one specific load condition. A fuller description, and illustrations showing this effect will be found in paper *Steering Problems and Layout,** by D. Bastow.

A further way in which an axle can steer a car is by virtue of the sideways push caused by tilting of the axle as one wheel encounters a bump or pot-hole. As the axle in such conditions pivots about a center, approximately in the plane of the spring eyes and hence well above the ground, such pivoting causes sideways movement of the contact 'points' between both rear tires and the ground, and hense the sideways push referred to.

Some independent rear suspensions can be responsible for similar effects:—with the swing half-axle, for instance, rise or fall of one wheel, without corresponding movement of the other, shifts that contact 'point' sideways and so produces a push similar to that already mentioned—a push, however, which is caused by one wheel only and resisted by the other wheel and the inerita of the rear end of the car, instead of being caused by both rear wheels and resisted only by the rear end inertia, as with the rear axle.

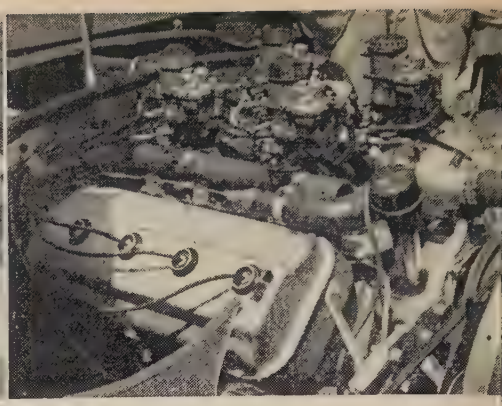
Certain forms of independent rear suspension, moreover, introduce 'steering' angles of the wheels as they rise and fall; if, for instance, the wheel is made to 'steer' outwards as it rises, then passing over a bump with one wheel only will tend to drag the car away from the other wheel—the opposite effect from the one just described.

The third way in which independent rear suspension can cause a steering effect is by camber thrust. Some types of suspension cause changes of wheel camber with vertical movement of the wheels. One of the papers in the 1935 S.A.E. Transactions shows that when a wheel runs along the ground with camber angle, i.e. not perpendicular to the surface, it develops a camber thrust in the direction towards which the top of the wheel leans. Different camber angles for the two rear wheels will therefore result in a net thrust in one direction or the other, and if this camber thrust varies with wheel movement up and down, then there will be a steering effect with vertical wheel movement.

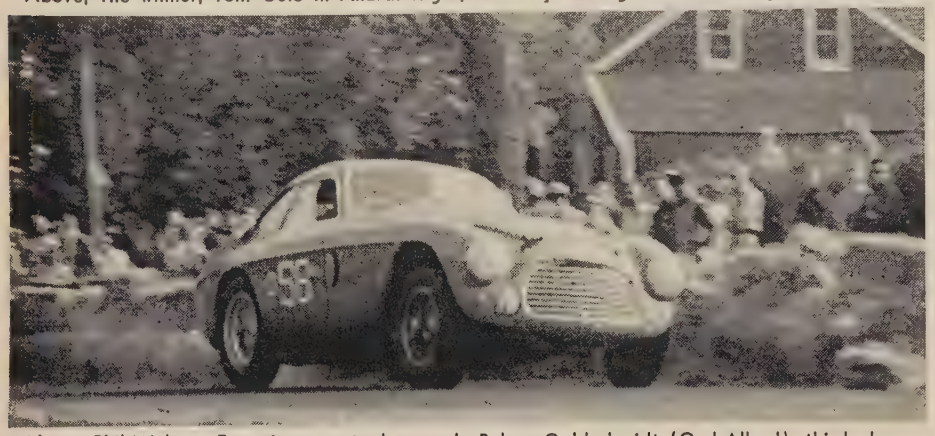
Some of the effects mentioned, tho referred to specifically as occurring at the rear of the car, can also occur at the front end. In general it can be said that steering effect is more likely to be caused by an axle than by independent suspension.

*Volume XXXII of the I.A.E. Proceedings, pp. 127 onwards.

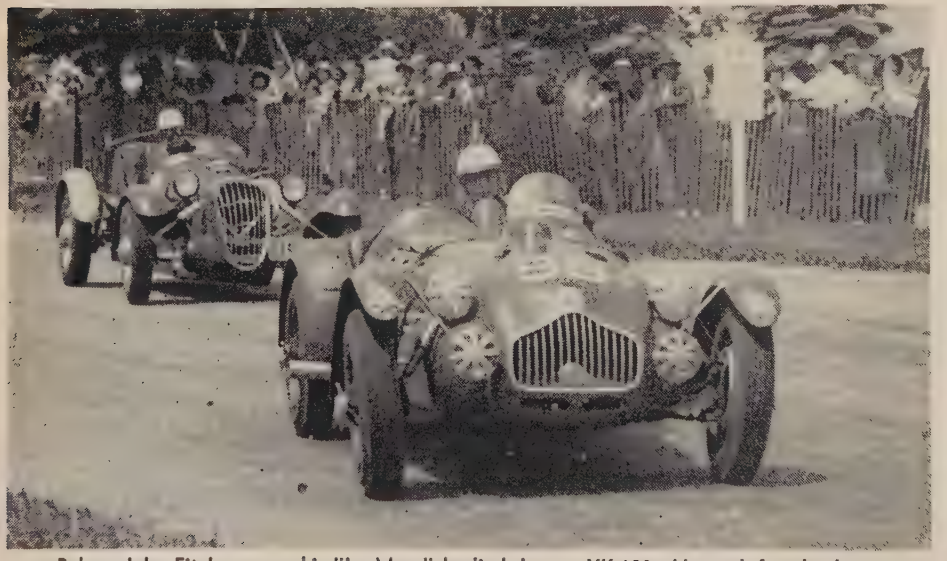
This is the fourth of a series of articles reprinted by courtesy of Thompson Automotive Products Co., Leamington Spa, England, makers of the Thompson Self-adjusting Steering Rod Assembly.



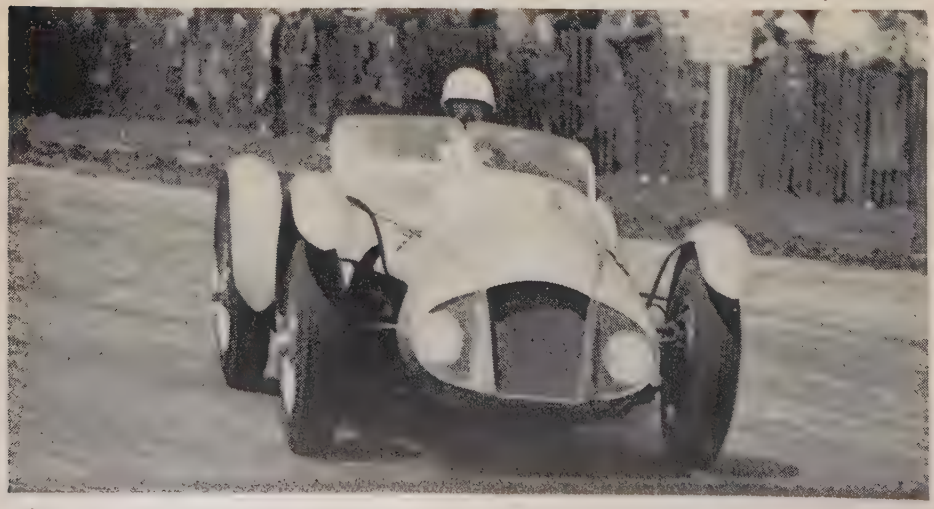
Above, The winner, Tom Cole in Allard. Right, his Chrysler engine, stock except for 4 carbs.



Above, Phil Walters, Ferrari coupe, took second. Below, Goldschmidt (Cad-Allard), third place.



Below, John Fitch corners his "Le Mans" bodied Jaguar XK-120. He took fourth place.



Bridgehampton Road Races

by P. S. de Beaumont

This year's was the third annual Bridgehampton, Long Island, N.Y., sports car race, and was again sponsored by the Bridgehampton Lions Club, under the auspices of the Sports Car Club of America, the Motor Sports Club, and the MG Car Club.

It was third-in-a-row for Tommy Cole too . . . . second in the '49 main event, victor last year, and top man today.

Sagaponack Trophy Race

Most regrettably, the results of this race for Classes F and G became scrambled, and therefore are provisional only. Twenty-seven cars started, mostly MG's, the rest being a handful of Cisitalias, Crosleys, etc.

According to one source, Class F was won by Jim Stiles, Jr., MG, followed by Jim Pauley, Cisitalia; Don Millians, MG; and Bill Lloyd, MG. On the other hand, it was later announced that the class had been won by Koster, Pauley, and Stiles, in some unknown order.

Things were less mixed as to Class G, in which Russ Boss was the victor in his trim blue Cisitalia after some determined, skillful driving *very* close to the hay bales. He was followed over the line in his class by Ferguson and McGee (both Cisitalias) and by Vilardi, Crosley, in that sequence.

There were too many wild slides and minor mishaps to list here, but Ed Kinsley at least deserves mention for charging a hay bale so effectively as to get astride it, wheels free. He was pushed off and continued, finishing about sixth.

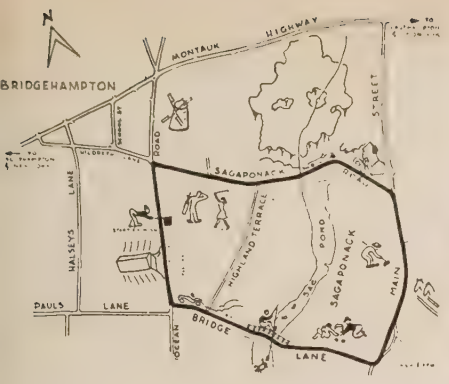
Mecox Trophy Race

This second race, also 10 laps, was for Classes E and D, and for Class F novice drivers. 21 cars started; 14 finished.

Great deeds were expected of Larry Kulok, in Bob Zile's "Mille Miglia" B.M.W., which, with 125 hp, weighs but 1440 lbs dry. By the end of lap 1 it was leading a Ferrari, but several bursts at 6000 rpm (5800 is max.) on top of 27 practice laps the day previous put a rod thru the case in lap 2. However, Grier's sister car (closed model) held up B.M.W. "Mille Miglia" honors by gaining 2nd spot in Class E (4th overall).

Briggs Cunningham's two Ferrari, the open one driven by himself, the coupe by Phil Walters, had the race pretty much in their pockets, being 1st and 2nd overall, and winners in Classes E and D, respectively.

The final order of finish after Walters was Simpson (Healey), Grier (B.M.W.), and then the blown MGs of Bentley, Cummings, and Cook in the order given.



Simultaneously, the Class F novices were tearing around in a private race of their own. When the dust and straw settled, Sheldon Morrill had won, followed by Hoan, Zabriskie, and Hawley, all in MGs.

Earlier, John Archibald, Jr., slid wide on the third turn in his MG TC, slammed broadside into the hay bales, and flipped, landing on his wheels. He was undamaged, but the car needs new wheels, etc.

A few laps later, in the same spot, Dick Irish, driving Frank White's MG, spun sideways in the road, panicked, and abandoned ship. The cries of the crowd to push the car out of the path of oncoming cars restored his wits and he pushed his car onto the grass in time.

Hamptons Cup Race

"Lead-foot" Cole started off with an outright win in the third eliminating event, the Hamptons Cup Race for Classes B and C. His time, 29 mins 45 secs, equalled an average of 80.6 mph . . . . this from a standing start and on a course with four right-angle turns plus several very noticeable bends.

In the same heat others did quite all right too. Erwin Goldschmidt (Cadillac-Allard) and Bruce Stevenson (Cadillac-powered Meyer Special), both in Class B cars, were next behind Cole, and were followed across the finish line by John Fitch in his special-bodied "Le Mans" Jaguar XK-120. Fitch was Class C's first finisher, his time being 30:24 . . . . 79 mph! It's a close race when the first and fourth cars are but 39 secs apart after 40 miles.

The Formula III Race

Of very great interest was the fourth race, as it was the first genuine road race on this continent for 500 cc cars, of which four were present.

It was extremely unfortunate, on this inaugural occasion, that Phil Walters, driving Cunningham's Cooper, and Bob Grier, Effyh, both failed to complete lap 1, thanks to two kinds of ignition trouble.

Accordingly, the race was cut from six laps to four, the winner being John Fitch aboard Charles Kotchan's Effyh, while Peter Dillnutt's Cooper, brought all the way from Canada, was runner-up.

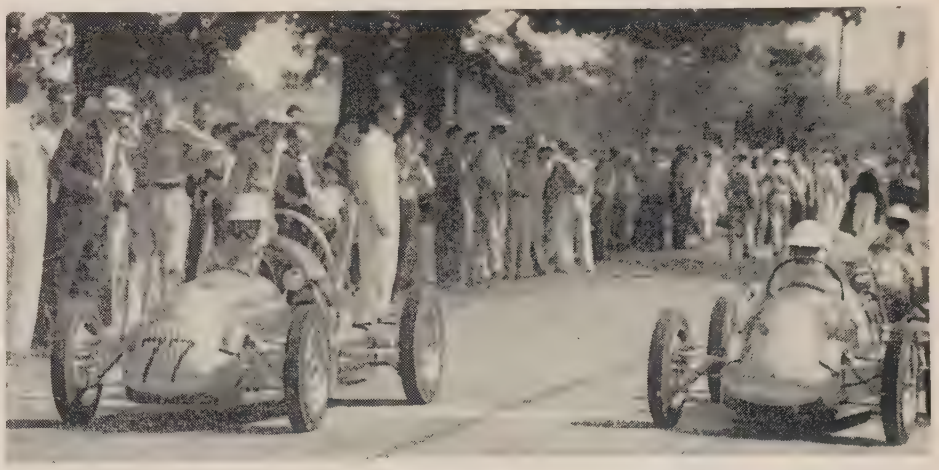
Fitch's time of 13½ mins amounts to an average of 71 mph . . . . pretty hot for four laps from a standstill.

All the drivers of the 500s agreed that these cars are very tricky, their sensitive steering and violent acceleration combining to give the impression of driving on ice. Nevertheless, once the drivers gain enough experience, even the Class B cars will be hard pressed by these tiny jobs.

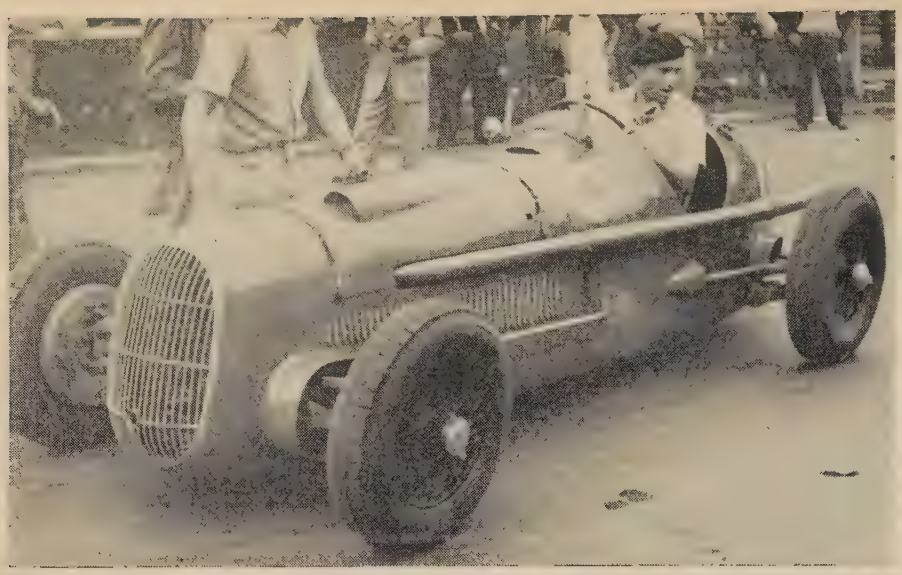
(Continued on page 38)

Above, Larry Kulok driving Mille Miglia B.M.W. shortly before throwing rod in heat race.

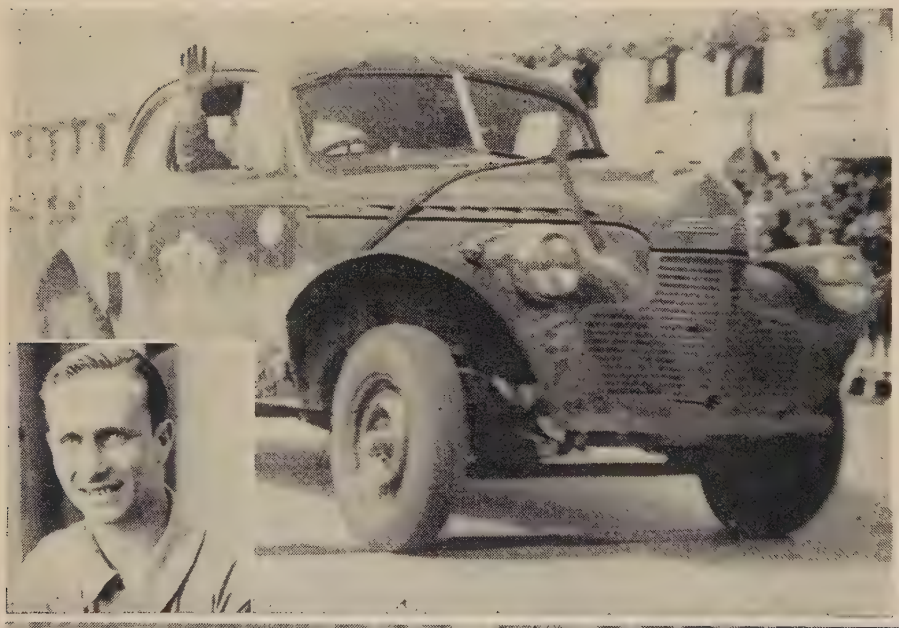
A trio of sleek Jaguar XK-120s whizz along Bridge Lane at well over 100 mph during practice.



Above, two Effyhs and Cooper on line for F.3 race. Below, Russ Boss, Cisitalia, won heat.



Juan Manuel Fangio



by Dr. Vincente Alvarez

Highlights on the racing career of the most glorious Argentine racing driver of all times. Millions of race fans in his country have become hoarse calling his nickname "Chueco" (Bendy Legs). As a runner-up in the 1950 Grand Prix Championships, Fangio's European invasion turned out into the most successful ever performed by a foreigner.

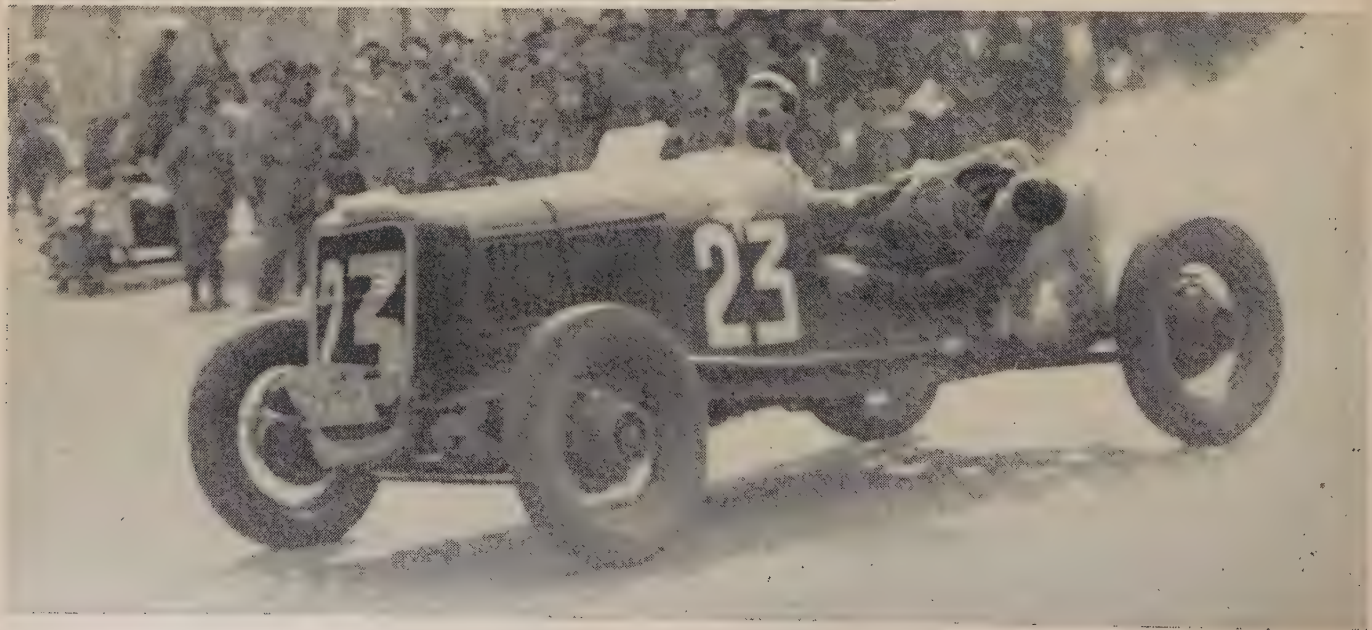
Auto racing history is rich in personalities whose achievements have filled many chapters. Even so, Juan Manuel Fangio stands out as the most remarkable ace ever seen here. Early in his career, he had firmly established himself as the foremost stock car pilot in South America and his entry into Grand Prix type road racing proved his versatility . . . once given the proper mount, he was able to beat the greatest aces of the continent in their own alley. Only two years after his first trial on a Maserati, Fangio had developed into a top-rank driver. Being a member of the Alfa Romeo team is the greatest distinction a European driver can achieve, and Fangio was given that appointment in an amazingly short time.

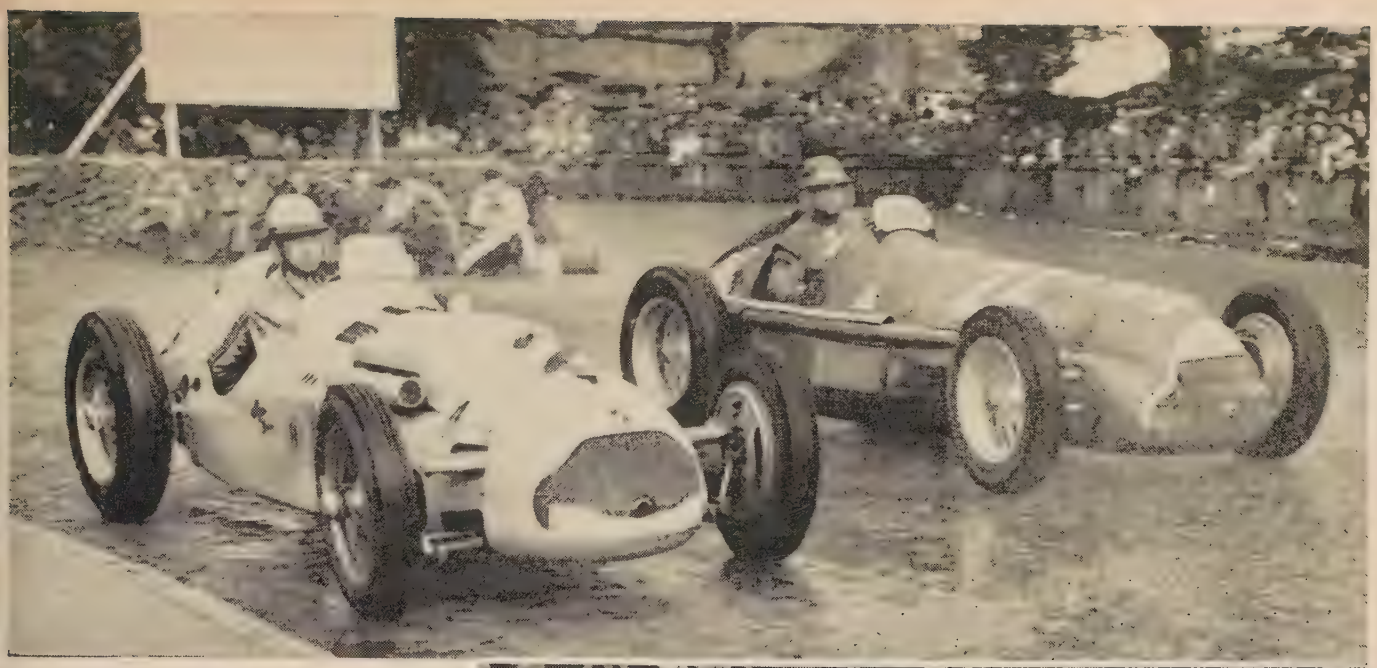
Having already earned a huge following in the Argentine for his stock car victories, his exploits in Europe turned his whole country into a solid mass of fans, not to mention the frantic cheers he was given by European crowds who hailed him as the most sensational showman in many years. His driving has been referred to as a perfect balance between impeccable technique and exuberant courage. A natural at the controls of anything on wheels and a pacesetter of fierce determination, his appearance on European road courses upset the monotony of the Grand Prix. His radical technique was proving faster than the traditional one. Obviously, the test of both techniques lay in cornering. Whilst European fashioned pilots stuck to the clean-cut, never-break-traction chauffering, Fangio displayed an apparently wilder method of four-wheel skids, much to the amazement of everybody. While this policy meant a heavier punishment to the car, it turned out to be decidedly the fastest way around. Power

At top, driving his Chevrolet powered "mechanics car," Juan Fangio wins the 1948 Autumn Grand Prix at Buenos Aires, Argentina.

Center, Fangio wins the 1940 Argentine Grand Prix in Chevrolet. Inset, Juan Fangio.

Bottom, Fangio at the wheel of his Ford V-8, with which he entered serious racing in 1938.



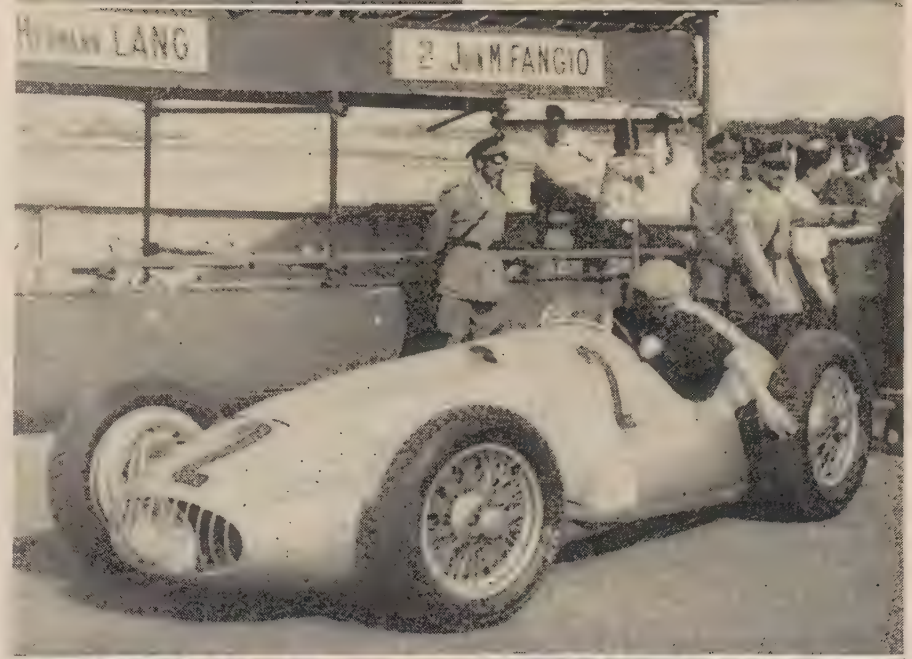


Above, Fangio, on Alfa #24, passes Claes (Talbot 4.5 litre) to win the Swiss Grand Prix.

slides, altho never having been a Grand Prix feature, were a distinctive characteristic of the greatest showman of the thirties, Tazio Nuvolari, and Fangio revived the thrill-shows of the "divine" Italian, by mastering the tricky winding course in a succession of controlled broadsides. This driving earned him millions of rabid fans and left the European aces no choice . . . catch Fangio or bust was more or less their battle-cry, and never before were Grand Prix races so keenly fought. Fangio had to be stopped somehow, and they eventually resorted to the same technique, putting up a fierce battle right from the start. Grand Prix races never put up prize money for loafing drivers, but now circumstances have eliminated those who were even slightly conservative.

Fangio, and his style, referred to as plainly "heretic" by some old fashioned racing authorities, had upset the whole scope of Grand Prix routine. Records fell galore and for the first time the famed Alfettes were suffering mechanical troubles, either under Fangio's heavy foot or under the strain of the chase. Alfa Romeo racing orders, as it was later disclosed, were quite strict in arranging the positions of the team's drivers for a good part of every race, but they were all free to drive to win on the last laps. However competition now became extremely keen right from the very start. The past European season was characterized not only by new records and failures in hitherto trouble-free race cars, but also by the numerous spills, which involved some of the top-rank aces . . . and the terrific pace set by Fangio, the "trouble maker," was to a great extent blamed for it.

(continued on page 36)

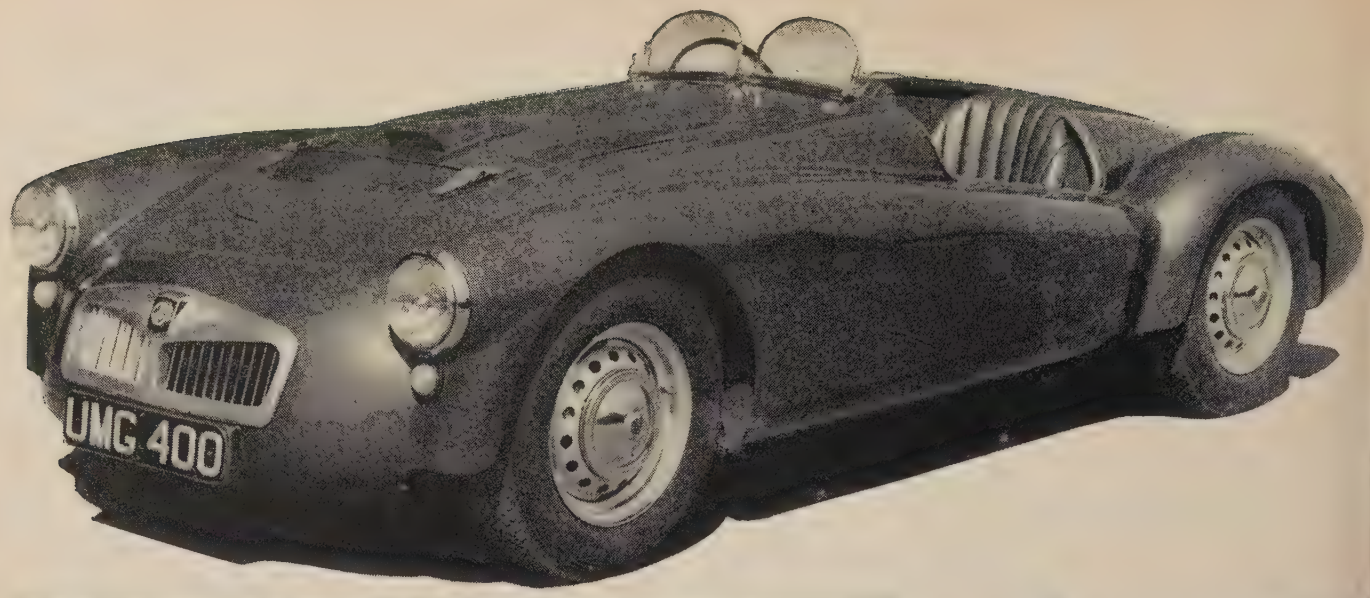


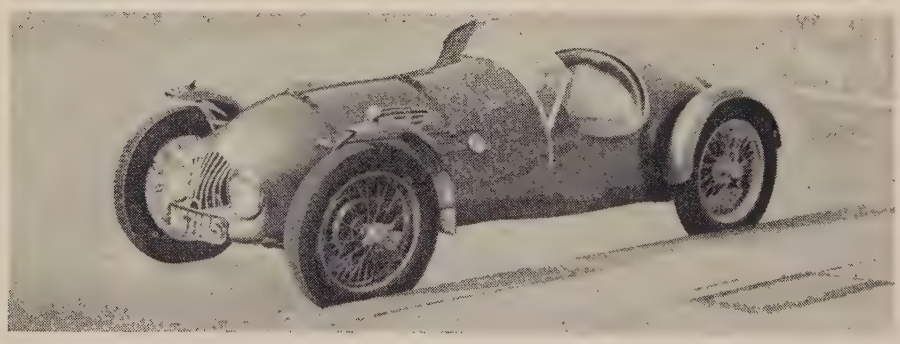
Small photo, left, Fangio on 2-litre two-stage blown Ferrari at Buenos Aires.

Small photo, right, Fangio on 2-stage 1500 cc Maserati at Buenos Aires.

Center, the M-163 Mercedes at Buenos Aires where it was driven by Fangio.

At right, the Alfa Romeo team at Berne G.P.: Farina, Fangio, Sanesi and de Graffenried.





Above, Competition bodied MG which ran in the 1950 Le Mans 24-hour race.

Le Mans MG

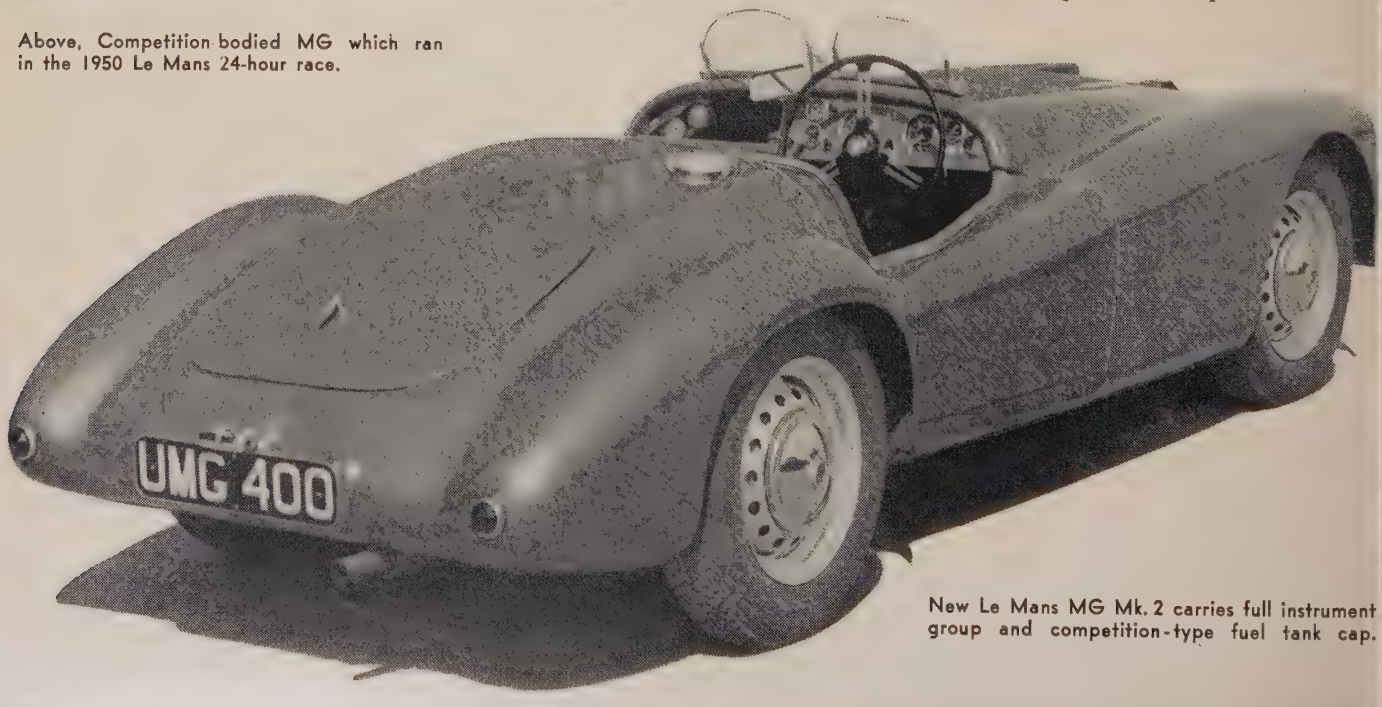
This sleek beauty is the aerodynamic MG TD especially designed for the 24-hour Le Mans race. Built to the order of George Phillips, who will share the wheel with Alan Rippon, it is basically a Mark 2 TD chassis fitted with a lightweight streamlined body inspired by Lt. Col. Goldie Gardner's famous record-holder.

Altho the modifications were made by the MG factory at Abingdon, Nuffield representatives disclaim any relationship of this car to future plans . . . . "it is not a prototype," they say. Truly a pity, for a cleaned-up version of the Le Mans TD would prove very popular in the U.S. and might even demand the extra dollars necessary to pay for tooling.

Would you like to see an aerodynamic MG on the market? Why not write the factory . . . . give them your opinion of the styling on the Le Mans TD, or of any other MG for that matter. Address your letter to:

Mr. R. A. Bishop
The Nuffield Organization (MG)
Cowley, Oxford, England

Consumer opinion is a powerful factor.

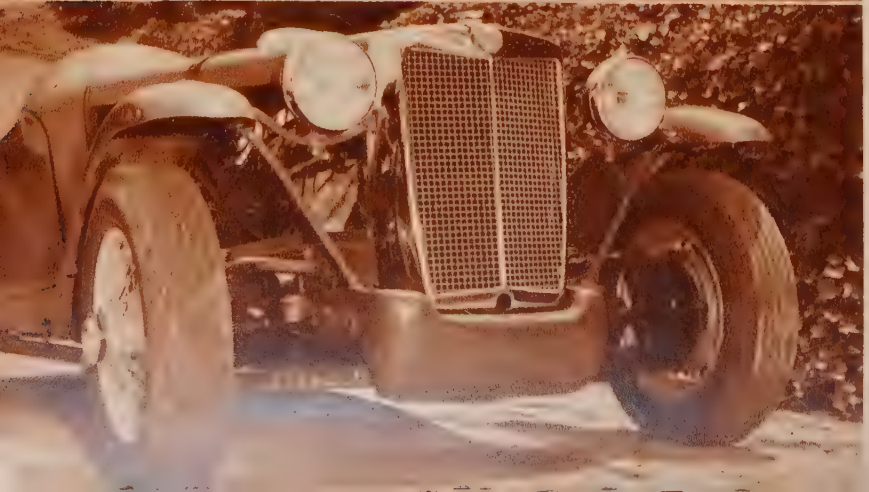


New Le Mans MG Mk. 2 carries full instrument group and competition-type fuel tank cap.

Phil Hill's 2.9 Alfa Romeo at Pebble Beach.
PHOTO BY CHESEBROUGH
Salon

PHOTOS BY CHESEBROUGH

A REMARKABLE TD!



When, in the late fall of 1949, the much talked of redesigned MG made its appearance, loud and long were the cries of TC lovers everywhere. It seems silly now to look back on it, but one distinctly recalls the many points about the TD which were felt to be inferior to the TC and how it was concluded that the MG people had irrevocably "put their foot in it this time."

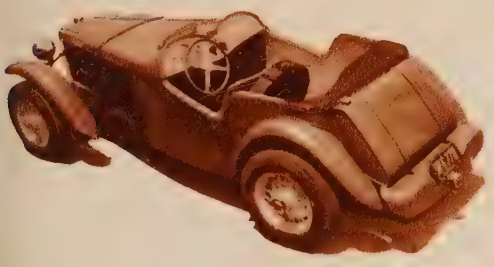
In those days the air seemed to be full of disparaging remarks about the differently shaped fenders, soft ride, added weight, loss of the wire wheels and a hundred and one other "faults."

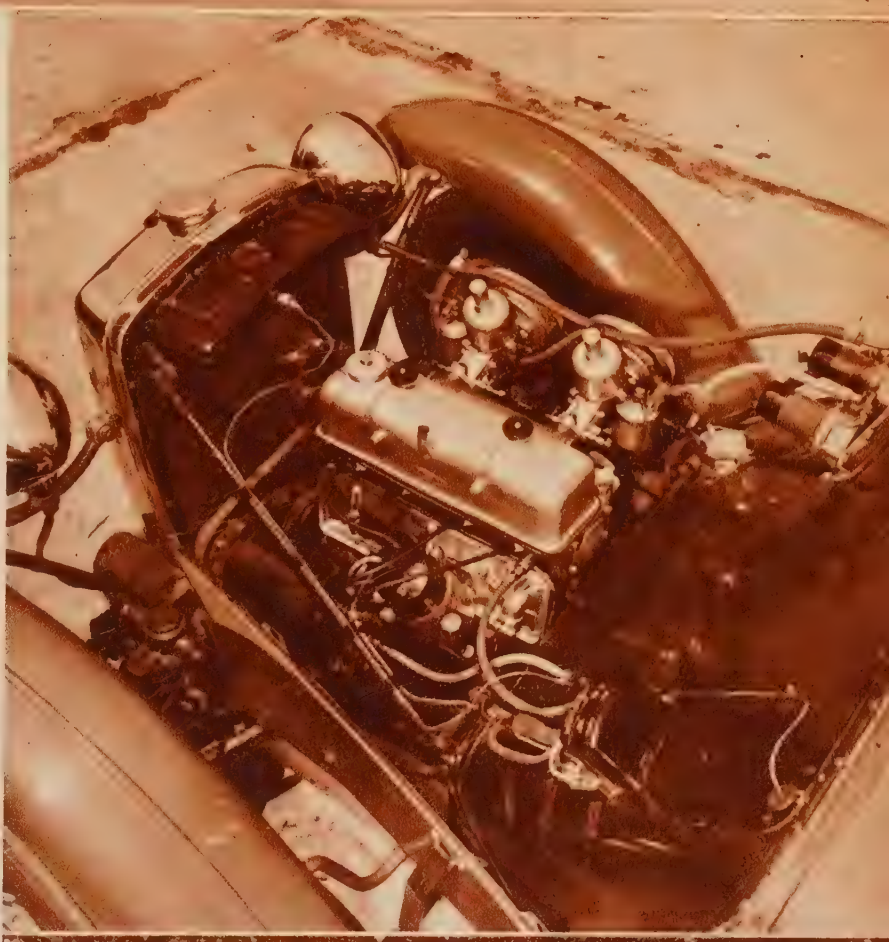
There was, however, one man who had the mechanical background and the driving ability to realize that Abingdon-on-Thames knew what they were about. John von Neumann, owner-builder-driver of the highly successful TD pictured here, saw, to his disgust, that the TC's younger brother was being given a decidedly unfair showing in sports competition. He knew from looking over the specifications that the "D" model was better in nearly every way, but he also knew that racing the car in stock form against highly modified and blown TCs was no way to prove it; nor were the owners of the TD helping it any by such gross errors as cornering with 18 lbs. of air in the tires.

The story of how Johnny built up the car to prove a point, falls into four distinct steps which coincide with the four entries and four wins of the car in competition.

For Step I, von Neumann took his stock TD and gave it the factory specified modification which includes, of course, larger valves, 9.5-1 compression ratio, 1½-inch S.U. carburetors, twin fuel pumps, and a Lucas magneto. At the same time, he began the lightening program. The abbreviated front fenders of aluminum were hammered out by Emil Diedt who also formed the front fairing and subsequent extensive aluminum work, which was fitted during steps three and four. Continuing with Step I, which was in preparation for the 1950 Pebble Beach "go", it might be well to mention Johnny's reason for sticking pretty close to the factory modification program for the engine. The American method of building a "going" automobile is to immediately bore out the engine in order to increase the capacity. Diametrically opposed is the European thinking which favors high rpm and small engines. John has proved his point pretty well: that a large quantity of cubic inches just don't exist in the MG engine, so another means of speed must be sought.

PHOTO BY CANAAN





The car was well prepared and ran reliably to win its class at Pebble Beach, but as John says "the second and third place drivers were awfully close. I knew I had to modify further to stay out in front at the coming Carrell Speedway meeting," which brings us to Step II.

During Step I, John had begun drilling out the frame and members, but now he went to work in earnest. Every possible bit of weight was removed by putting half-inch holes thru-out the chassis. (Note front suspension at lower left.) It might be well to remind you enthusiasts that while a structure may gain in strength to weight ratio by drilling, it is also possible to drill in the wrong places. In order to avoid having your chassis separate under you, it is recommended that you have a simple stress analysis made by someone who understands such things. Step II was completed by replacing the wood floor boards and instrument panel with aluminum. The hood (bonnet) was removed and one of aluminum fitted.

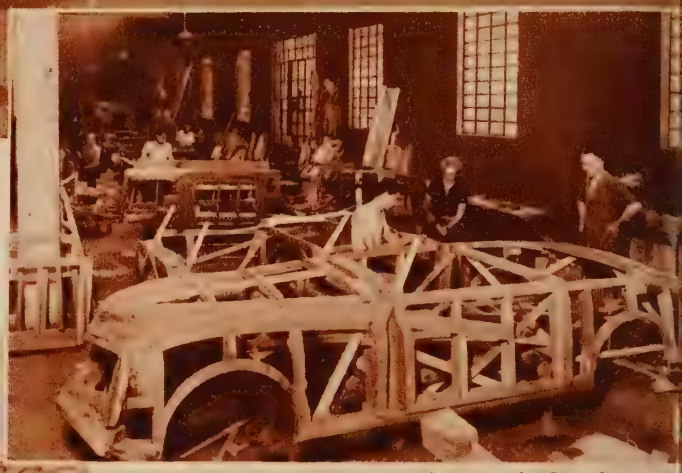
At Carrell, John drove first in his class once again but he found that different gearing would vastly improve performance. So, for Step III a TC gear box was fitted along with a lower ratio rear end. The closer ratio must have paid off for at Palm Springs (1951) . . . the car easily won its class. .

However, during the last few laps in the desert, Johnny ran into brake trouble. This problem was overcome during Step IV, which was in preparation for the Sandberg Hill Climb. Larger drums with cooling fins were placed inside a set of Alec Ulmann's Borrani wire wheels. A perfect copy of the MG fuel tank was fashioned from aluminum sheet and to top it all off, the rear fenders were changed to the lighter metal, as was the fire wall.

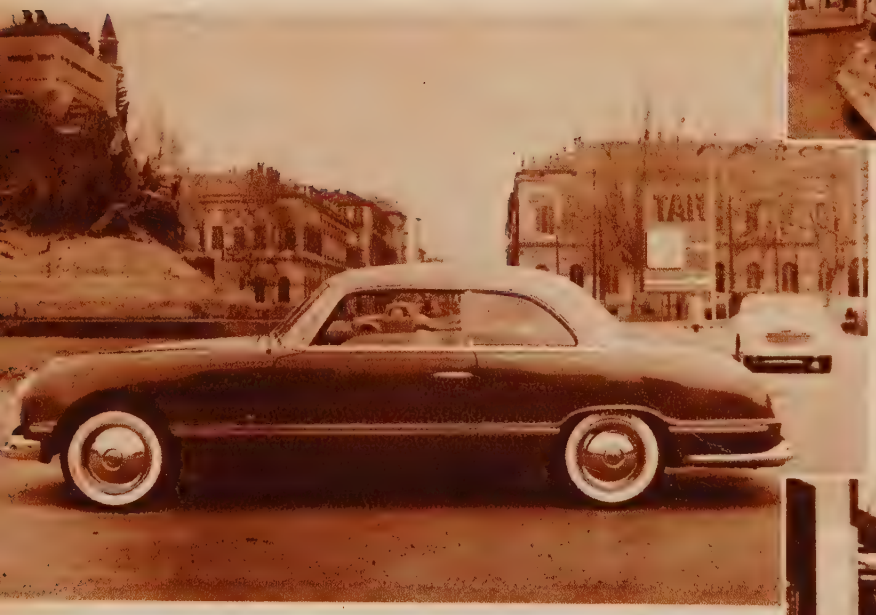
Once again the von Neumann car dominated its class at Sandberg to finish off a grand record. Furthermore, it has never finished worse than seventh in any competition and against any car regardless of size or class!

It is this writer's belief that the MG, if fitted with an aerodynamic body could add further luster to its escutcheon. How about it, Johnny?

Societa Anonima STABILIMENTI FARINA



Top, a conservative Farina design is the four-door sedan on a Fiat 1400 based Siata-built chassis.



Center, the "hardtop convertible" is introduced on the Continent by Farina on the Alfa Romeo.

Bottom, an excellent example of Farina's very clean styling appears on the Fiat 1400.

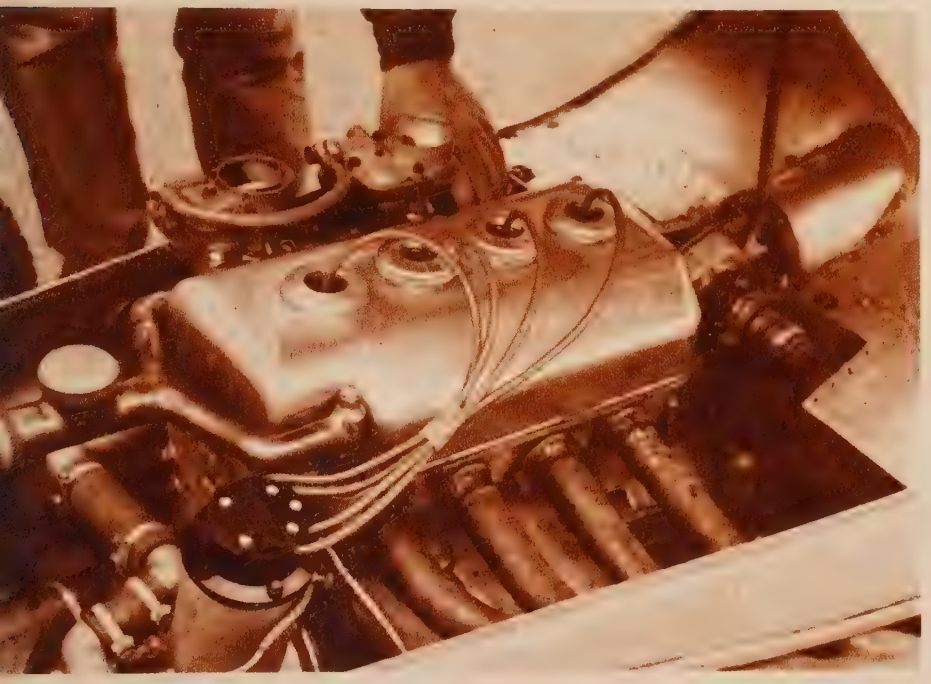
The magic name of Farina arises whenever fine custom coachwork is discussed. This famous Torino firm is one of the largest and best known carrozzeria in Italy.

A peek at their operations is provided by the two photographs above. At the top we see the construction of wooden forms over which the metal (usually aluminum) panels are fitted. These forms provide a "dressmaker's dummy" only and are not used as permanent framework for the body. Some designs are "one off only."

The lower photo provides an insight to the great amount of work necessary to hand assemble and fit the various body panels.

Above left, 500 cc expert Stirling Moss drove ably on the British-built HWM to take third.

Above right, Manzon of France (Simca) passes Ascari of Italy (Ferrari #6) on inside of curve.



The successful new Simca 1500 cc engine. Note unusual water manifolding and filler cap.

Fangio (Ferrari 2000 cc) is pursued by Ascari (Ferrari #6). Fangio's engine shortly failed.

MONZA GRAND PRIX

Formula 2 | Formula 3 = Interesting Race

by Corrado Millanta

What a surprise at Monza . . . Ascari and Villoresi, on 2-litre Ferrari, engaged in hot battle, not only with the 1500 cc Simcas, but also with a HWM driven by Stirling Moss. It is only fair to point out that the two 12-cylinder Ferrari were not in good condition as indicated by the failure to equal last year's times. The improvement shown by the French and British competitors gives hope to the true enthusiasts who would like to see stiff future competition on a more equal international basis. Ferrari, in anticipation, already has new projects under way . . . for example, the yet untried 4-cylinder which is said to be ideal on mixed circuits.

It was quite interesting to see the Simcas giving trouble to the Ferrari, particularly when we know that they are built to opposite theories. On one side (Ferrari) we have a complicated 12-cylinder engine of the maximum displacement (2000 cc) allowed by formula 2, and, on the other hand, a simple small car (Simca) in which even cc's have been sacrificed for the sake of lightness, the 4-cylinder engine being only 1500 cc displacement. Much credit is due the Simca drivers, Manzon, Trintignant, and Simon, a trio which have grown up racing this marquee.

The formula 2 race was run in two heats, the eventual winner being determined by accumulation of points from both races. From the start of heat 1, von Stuck in an 8-cyl. AFM led. This was quite a surprise because Stuck usually holds a conservative pace to save his engine. Unfortunately, the German cars are not yet suitable for long distances . . . they were developed and built despite great difficulties and some "bugs" are still present. It seemed as tho Stuck preferred to lead even at the cost of disappearing after a few laps . . . and he did after three. At least he demonstrated the potency of his car. The other German driver, Pietsch, had to remain content in the rear ranks as his Veritas-Meteor lacked speed.

Ascari took over the lead with Fangio, driving a 2 litre Ferrari, close behind. Disregarding rev limits, Fangio managed to pass Ascari only to have the crankshaft break. Villoresi

Above, Hans Stuck on A.F.M. Top right, Stirling Moss, brilliant young British driver.

At right, an Alfa Romeo 2500 Special Sports paces the flying start of formula 3 race.

Germany was represented at Monza by Grand Prix ace von Stuck and veteran Pietsch.

Villoresi (Ferrari #2) passes Ascari (Ferrari #6) to win second heat of formula 2 race.

then moved into second place, holding it until the finish. Meanwhile, the rear positions were offering keen competition between the three blue Simcas and the HWM driven by Stirling Moss, the young Englishman who improves with each race. Fighting for the 3rd, 4th, and 5th places, Trintignant, Moss and Manzon arrived in that order within 2/5 of a minute.

The second race provided a surprise too . . . Ascari took the lead, closely heeled by Manzon, who, by motoring very rapidly in his small blue Simca, gained the admiration of spectators (a group of technicians from Alfa Romeo, Ferrari's famous rival, followed with keen interest and satisfaction the splendid performance of Manzon's Simca . . . it seems that Alfa is going to build formula 2 cars, too). It is possible that Manzon changed gears between races because in the second race his car looked perfect for the Monza circuit. After several laps, Manzon caught Ascari and slipped past him on one of the 90° curves. At this point the race became furious . . . for 10 laps they ran within a few feet of each other; some curves were taken side by side with passing and repassing on the straights. Meanwhile, Villoresi, in third place, was being pursued by the relentless Stirling Moss.

In view of Villoresi's great experience and ability, it was to the credit of young Moss that the master was hard-pressed until the 14th lap when the Briton was trapped by slower traffic and lost several seconds. In this same lap, a broken valve forced Manzon's beautiful drive to an early end.

Villoresi finally passed Ascari too, winning by half a length, but Ascari was the winner of the overall race by three seconds, mostly gained in the first race.

The poor condition of the Ferrari, in conjunction with the excellent operation of the Simcas and the HWM, established an equilibrium which kept everyone guessing as to the outcome. In analyzing, however, it would seem that if the Ferrari produces 77 hp per litre at peak rpm, its output at the medium rpm range could be improved. This is absolutely necessary for Ferrari, because, at this medium range the Simca is very potent, and being lighter than Ferrari, they are able to match the ac-

Top left, Moss (HWM) presses Villoresi (Ferrari #2). Above, Pietsch on Veritas Meteor.

At left, a trio of Cooper 500s battle on Monza's bricks. A Norton-powered Cooper won.

celeration of the 12-cylinder car in the 25 to 50 mph range (where torque at lower rpm is important). In fact, it is known that increased power at low and medium rpm range is easier to obtain from an engine having greater capacity per cylinder* . . . Ferrari are building a new 4-cylinder engine for their formula 2 cars.

* Ferrari's 12-cyl. 2000 cc engine has 166 cc per cyl. Their new 4-cyl. 2000 cc engine has 500 cc per cyl.

The Formula 3 Race

The Formula 3 race, the first held in Italy, was won by Cooper on a Cooper-Norton. The Italian driver Hercolani took second place in the Giaur, built by specialist Taraschi. Another Italian, Mijiorini, driving the Monopoletta-BMW went in mad pursuit of three late model Coopers which already held a large lead. After passing two of them, he found himself squeezed in the turn with the third Cooper and was forced to make the "most picturesque flight from the course" ever seen at Monza . . . but without injury. In those few laps the Monopoletta proved the equal of the famous Cooper. The new Italian Formula 3 cars: Savonuzzi—Falcone with Guzzi engine, and Volpini with Gilera engine, unfortunately, were not ready; we are sure to see them at the next competition.

Mijorini (Monopoletta BMW) has just passed two Coopers . . . later, he spun off course.

Italian formula III Giaur engine, 4-cylinder water cooled, develops 38 hp at 6000 rpm.

RESULTS

Formula II Race — Circuit: 3.9 miles
50 laps, 195 miles

1.	A. Ascari	(Ferrari)	1.55.19,	101 mph
2.	L. Villoresi	(Ferrari)	1.55.23	
3.	S. Moss	(H.W.M.)	1.57.2	
4.	M. Trintignant	(Simca)	1.57.31	
5.	A. Simon	(Simca)	1.57.40	
6.	R. Fischer	(Ferrari)	1.57.57	
7.	G. Bianchetti	(Ferrari)	1.55.42	
8.	P. Whitehead	(Ferrari)	1.57.32	
9.	A. Stagnoli	(Ferrari)	1.59.15	
10.	P. Staechelin	(Ferrari)	1.56.31	
11.	O. Moore	(H.W.M.)		

Formula III Race — "Corrado Filippini Cup"
24 laps, 93 miles

1.	J. Cooper	(Cooper)	1.9.17 81 mph
2.	F. Hercolani	(Giaur)	1.11.7
3.	K. Carter	(Cooper)	18 laps, 1.8.4
4.	P. Schell	(Cooper)	15 laps, 1.44.55
5.	A. Hanlet	(Cooper)	
6.	Berardo Tarashi	(Giaur)	
7.	B. Whitehouse	(Cooper)	

XVIII MILLE MIGLIA

PHOTOS COURTESY
INTERAUTO - MILANO

At top, Villoresi, driving 4100 cc Ferrari "Amerika" coupe, awaits starting signal in Brescia.

Center, beating collision course, Villoresi tyrosa thru Mt. Futa Pass to win 1000 mile race at average of 75.62 mph. He exceeded 160 on straights.

At right, Giovanni Bracco receives checkered flag as his Lancia "Aurelia" wins 2000 cc category, placing second in the overall. This victory was a great surprise as the V-6 Lancia sports sedan finished ahead of all the 2-litre Ferrari.

Third place went to Scotti on Ferrari who was followed by Ferrari, Lancia, Alfa Romeo, OSCA, and Frazer-Nash in that order. Wind and rain were responsible for several crashes which eliminated some of the favored cars, including team Jaguars and Ferrari.

(For complete story see page 28)

TECHNICAL CORRESPONDENCE

BEARS AND CHASSIS

I should like to call your attention to a slight error in your Technical Correspondence column in the May 1951 issue of ROAD and TRACK. You stated that brake horsepower is given by

bhp = (Torque x rpm)/3000

I beg to differ. The correct relation is

bhp = (Torque x rpm)/5260.

If the lever arm of the dynamometer is 1.75 feet, than we may write:

bhp = (bear load x rpm)/3000,

which is no doubt where you obtained the constant 3000.

Could you tell me if American auto manufacturers or dealers will sell their cars without bodies? I am interested in building up a car on a light chassis like a Henry J, but cannot see paying for all the wasted sheet metal and chrome that comes with it.

Redlands, Calif. Tom Oglesby, Jr.

Many thanks for the correction on the formulae appearing in our May issue. The word "bear" was an even worse "bull"—it should have been beam load!

For a chassis, I suggest, first, a letter addressed direct to the General Sales Manager of the make of your choice. Failing there you can contact insurance adjusters or even junk yards for a "total." Some of these have the chassis relatively unharmed, and under $500 is a usual price for cars costing much more than the Henry J. Incidentally, this little chassis has terrific possibilities.—Tech. Ed.

MERC. IN SS-100

We are building a sport car with a 1949 Mercury engine slightly reworked (twin carburetors, .060" milled off stock heads, dual breaker point ignition, set in an SS chassis with Ford transmission and overdrive. Due to engine placement there is about 18" between the fan and the radiator (1950 Mercury).

Would it be possible, by using 100% Prestone, to leave off the fan and not risk overheating the engine at low speeds? We are using two finned aluminum tubes in place of top water hoses. We can get plenty of grille area, plenty of louvres in hood and underpan if that would aid.

Philadelphia 4, Pa D. Kennard Smith

You will really have a nice sports car—a good chassis, nice lines, and an engine that doesn't have a tendency to toss fatigued aluminum thru the crankcase.

Re cooling, I suggest holding the Prestone as a last alternative because the higher engine temperature may mean trouble from distortion, blown head gaskets, etc. I have an almost identical problem to yours—a little "hotter" engine and a '50 Mercury radiator. I made a special hub and bolted the 1939 Ford-Merc fan to the crankshaft. I HOPE to be able to run without fan, but haven't run the engine yet. Anyway, I've got a fan, if needed.

I think you may find the best answer to your problem by purchasing Ford accessory No. 59A8654, Thermostatic Control Fan. This is an eddy current fan drive which you can easily re-wire to manual control. It weighs 14 pounds with bracket, and incidentally, may require some reworking to fit the '49 engine.

The finned upper tubes are probably a slight help but if you use a spiraled member inside to give the flow a swirl as it flows, they will be still more efficient.

While you do not ask, and American engines normally do not need an oil cooler, may I suggest that if you are considering one, look into the cooler used by Chevrolet for cooling the torque convertor oil. I don't know if it can be adapted or not, but I think so.

Don't throw the Jaguar front bumper away—it's a very essential part of the suspension due to its harmonic stabilizing effect.—Tech. Ed.

SUPERCHARGING VS. HOPPING UP

After a year of reading virtually every motor magazine published in the U.S., I am still somewhat confused by the relative merits and demerits of Supercharging vs. "Hopping Up." Articles written on Supercharging (especially by advocates of the "Hop-Up" method) seem to carry a thinly veiled warning of: "You're dead, Buster, if you hang a blower on it"; While those by other "experts" patronizingly suggest that you've gone to a great deal of trouble with heads, cams, ports, pots, etc., when it's so simple to wrap it up neatly with a good supercharger.

The car I hope to purchase soon is the Morgan Plus 4. With its relatively low compression ratio, single carburetor, etc., it seems extremely well suited to either method of improving the performance. At the moment I would be inclined to favor the Blower because of its relative simplicity, but am curious as to which engine would be more reliable under all round, SANE use.

A demonstration ride in the car convinced me of its above average road manners and all-round lively performance, but left me with the impression that, in acceleration, it would come out second best to several current American models, IE: Chrysler, Olds 88, Cad. Also, while the cruising speed (76mph) is entirely satisfactory, it would be nice to have better pickup from 60-65 mph (for passing).

South Pasadena, Calif. L. B. McDaniel

If I owned a Morgan Plus-4 I would modify the engine as follows: about 8 to 1 compression, 2 Zenith side draft carburetors, a special muffler. with maybe new sleeves and pistons (for 1995 cc) and a reground camshaft for later competition activity.

I have watched modified MG's do just as well as the blown ones in many cases, and actually believe that the choice boils down to one question. If you want improved performance at all speeds, the blower is the answer, and it generally is more reliable. The various stages of super-tuning show improvement only at high rpm, and too often the result of over enthusiasm is complete loss of docility, and reliability. Minor modifications such as outlined for the Morgan, plus the added sturdiness of a much more modern engine (than the MG) should make a satisfactory and reliable car at less cost than the blower, but it wouldn't have quite the performance at lower speeds.

The Morgan, modified only to stock MG specifications, should develop 90 bhp and the resultant power-to-weight ratio will take care of the Detroit iron you mention.

A final point to be considered is the arrangement of classes and rules for sports car competition. The supercharger puts you up one class and the 88 extra cc has already boosted you one class, so you are beat before you start.—Tech. Ed.

IRREVERSIBLE STEERING

With so much emphasis placed on "Irreversible" steering gears by most manufacturers I am curious as to the popularity of the rack-and-pinion design which, as far as I can see, is strictly reversible.

E. Hampton, Conn. George P. Deemis

The original reason for irreversible steering was to avoid "kick back" of the steering wheel so prevalent with "conventional" front suspensions of the early twenties. (Also called "wheel-fight")

Today's I.F.S. systems give virtually perfect steering geometry in that steering is absolutely unaffected by even extremes of wheel jounce and rebound travel. Also it has been found that some "feel" of the road wheels is desirable, and finally the rack and pinion is simple, effective, and relatively cheap compared to cutting a complex worm form, anti-friction bearings, etc.—Tech Ed.

SPARE THAT SPEEDSTER

Tsk, tsk, your ignorance of Graham is pitiful, any Hupp, Graham, Cord, Auburn, Duesenberg, Franklin, Durant or Star owner can tell you that all they have to do is write to any of the above named and they can get whatever their little hearts desire, including brand new Columbia overdrives for Skylarks or Hollywoods. Drive your car back there and they'll completely rebuild it for you. If that knucklehead Scala ruins that Hudson Speedster, and they did make 'em cause I owned one, by chopping a collectors item up, he (and you) ought to be disbarred from the H.C. Club and from any other Old Timers Club. An Essex or Hudson speedster is now a real collectors item and should be advertised in your classified section, wake up Ed.

El Centro 6, Calif. Jim Sadler, Jr.

I realize that parts for the cars you name are available, but will repeat that the Columbia 2-speed rear axle is not and never was available for the Hupp Skylark or Graham Hollywood.

Also, I would not for a minute suggest cutting up a 1931 Hudson Speedster. All I said was what could be done to install a later engine for which service and parts would be available.

If I ever find that Wills St. Claire roadster I've been dreaming of, I'll make the purists turn over in their graves by installing an ohv Cadillac engine and 3-speed transmission, plus a Ford rear axle!—Tech. Ed.

JEEP SPORTS CAR

I am planning to build a sports car. The following is my proposed set up: War-time Willys Jeep frame, steering, axle (less front drive) and differential with either 3.54 or 4.11 gear, dependent upon your advice (frame lowered by lowering blocks).

Halibrand Magnesium wheels—13" or 14".

V-8 60 Block, ported and relieved, 30° valve seats.

30° light weight valves, Swedish steel springs.

Mushroom cam and tappetts? Roller tappetts and cam?

Super, ¾, Track or what?

Offy 11-1 heads, flywheel, crank pully and load plate.

Norden 180° crankshaft and dual manifold. (maybe cam too, you tell me?)

JE pistons and American hammered chrome rings.

80 lbs oil pump (standard water pipes, larger radiation).

Harman and Collins magneto.

Leonard air cooled plugs.

Mystery Inverse oiler (using plain old mineral oil).

No generator or fan (use battery for starting and recharge at home with a charger (use 57 plate battery).

Dual exhaust headers—straight thru mufflers and use **Propane** for fuel (120 octane).

Body to be aluminum ribbed and stringers covered with **airplane fabric** and **doped,** hood opened with **zippers,** also trunk.

Seats made of **tire tubes** inflated in web frame covered by foam rubber and leather.

Ah, yes, transmission, can I use a '40 Ford transmission on my V8-60 block? Then I can insert 1st and 2nd Zephyr gears.

El Paso, Texas E. J. Brunstein

Why start with a Jeep chassis? It's very heavy, too high, too short, too stiff springs, etc. Also you can't get 3.54 or 4.11 gears—Jeep ratios are over 5 to 1. Lowering blocks won't work because wheel jounce travel is already very small, and blocks would reduce this to near zero.

Magnesium wheels are only available in 12", 16" and 18" sizes.

Your engine specifications sound fine, and selection of cam will depend on what sort of use you wish to put the car. The 1940 Ford 60 block will take the "85" transmission with Lincoln gears. Propane fuel is wonderful but dangerous to handle in re-fueling, as you know.

I doubt very much if a doped fabric body covering will be passed by any technical committee inspection for sports car competition, tho it will be light for sure.

Why don't you make up your own tube frame, or simpler yet, use a Henry J frame and suspension?—Tech. Ed.

BLOWER FOR CHEVIE

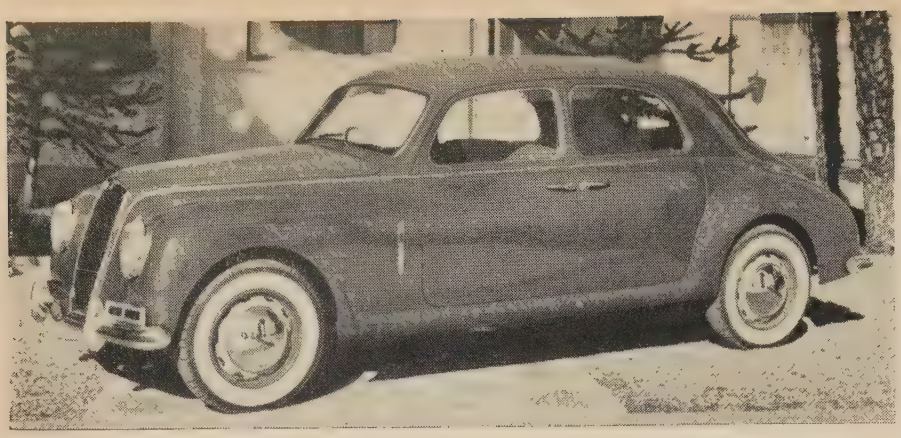
Is it possible and practical to add a Roots type or other blower to a Chevvy Power Glide for regular highway use?

What would be the cost and likely mileage increase on gas economy?

Sioux City 8, Iowa Franklin E. Gill

A Chevrolet equipped with Power Glide transmission cannot approach the same car equipped with a standard transmission under most driving conditions. A torque converter is not a very efficient device, altho at high speeds the 3.55 axle ratio on the Power Glide offsets this disadvantage.

There is no roots type available for the Chevrolet and I would estimate that the cost of trying to convert a 3 cylinder GMC Diesel roots blower for mounting on a Chevrolet could amount to as much as $1000. An old Graham supercharger could possibly be converted to a Chevrolet by ingenious mechanics but the radiator would have to be moved forward about 3 inches to make room for belts. This and other problems would also involve considerable cost. The Besasie Engineering Company, 920 N. Jackson Street, Milwaukee, Wisconsin makes an exhaust driven supercharger for the Chevrolet. This is illustrated on Page 35 of Automotive Industries for February 14th, 1949. The biggest drawback to this supercharger is that proper functioning is only secured with little or no exhaust back pressure. Some of the straight thru mufflers available from various sources should be satisfactory tho a little noisy. This set up gives very good gas mileage but I have no experience with service and maintenance expense on the turbo-supercharger itself, tho it appears to be of a relatively simple, straight-forward design.—Tech. Ed.



LANCIA AURELIA

One of the world's most versatile cars, boasting many interesting design features, including an ohv V-6 engine, integral frame and body, 4 wheel i.f.s. . . .

by John R. Bond

Probably the most important competition event in Italy, a nation whose national sport is automobile racing, is the Mille Miglia (thousand mile race). The 1951 event was won by a 4.1 litre Ferrari "America," which was no surprise. The surprise came with the second place finisher, the new 2-litre version of the Lancia "Aurelia", known as the "Gran Turismo." This performance throws new interest into a car which abounds in unusual mechanical features—features which have special interest to the student of chassis design, representing as it does, the possible next step in the American tendency toward compact engines, mounted well forward. A further point of special interest lies in trying to evaluate how a car developing only 75 bhp was able to average over *80 mph* in a *1000 mile* road race, finishing only 20 minutes behind the 220 plus bhp Ferrari.

The new Lancia Aurelia is the first postwar model from the second largest producer of automobiles in Italy. This Turin manufacturer has never been guilty of building ordinary cars. In 1920 they pioneered their sliding pillar type independent front suspension and the unit frame and body—features continued in modified form, in the Aurelia. They have also been well known for their unusual powerplants featuring narrow angle V-types. Ing. Jano, the present head of Lancia's design department, was with Alfa Romeo before the war.

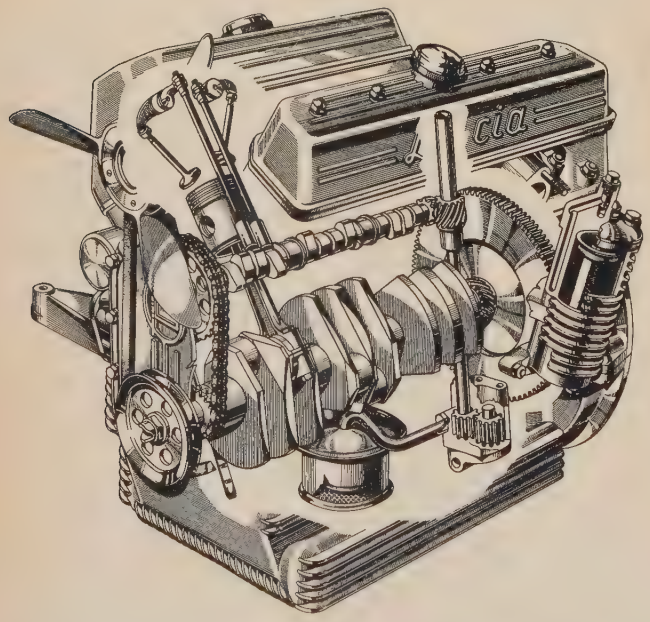
The Aurelia is powered by a 60° V-6 engine, having a bore and stroke of 70 mm by 76 mm, about 2.75 x 3 inches, with a displacement of 1754 cc or only 107 cubic inches. The output is 56 bhp at 4700 rpm with a maximum torque of 78 lbs. ft. at 2800 rpm.

An alternate engine is available with a bore and stroke of 72 mm by 81.5 mm, about 2.84 x 3.21 inches, with a displacement of 1991 cc or 121.4 cubic inches. The sports version of this larger engine is equipped with two carburetors, has a compression ratio of 8.4 to 1, and develops 75 bhp at 5000 rpm.

The V-6 engine gives even firing by virtue of a 6 throw crankshaft with each successive crankpin advanced 60° in a continuous spiral. This arrangement does not give perfect balance, due to a rocking couple, but rubber mountings should eliminate any transmission of vibration. A point of interest here is that a V-6 (along with an opposed 6) having 6 throws, requires a wide cylinder bore spacing to allow adequate bearing lengths and crank cheek thickness. Here then is the place for a bore larger than the stroke, but for some reason Lancia has not seen fit to exploit this possibility. In any case, the stroke is still very short and the Lancia crankshaft is well supported by 4 main bearings of 2.12 inch diameter. The crankpins are 1.7 inches in diameter by .985 inches long, and the minimum cheek thickness is approximately .44 inches. There are 9 integral counterweights but no torsional vibration damper is used. The steel-backed main bearings are unusual in having a wall thickness of .197 inches (.093 is usual American practice), in order to give sufficient strength and rigidity to overcome the concentration forces of an aluminum crankcase in extremely cold weather. (Aluminum engines have been known to refuse to start under such conditions.)

Wet sleeves are used and employ the first production application of high-velocity cooling water passages. Removable sleeves, plus ample length of connecting rod and piston skirts should insure very long life in these departments.

Like the block, the cylinder heads are aluminum alloy castings, and valve seat inserts are used. The valve arrangement fol-



Below, Gran Turismo model

lows pre-war Lancia design, and can be described as similar to the new Chrysler V-8 except that each pair of valves is rotated 90°. In other words, the push-rod operated valves are inclined at an included angle of 52° to each other and a single plane will include all the valve stems in one bank as well as all cylinder bore axes.

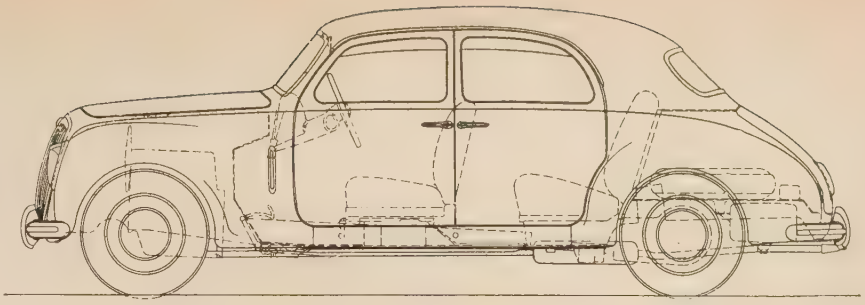
The result of these design features is a very light and compact engine, yet it is not placed nearly as far forward as the average American car. Despite this, the toeboard location is as far forward as permitted by front wheel turning clearance limitations, and even more important, there are no huge bulges for clutch and transmission covers, both these components being placed at the rear in a unit with the differential.

The section view illustrates the unit clutch, 4-speed transmission and final drive gears. Points of special interest here include the small diameter of the clutch (6⅝ inches) the unique placement of gears to give a short span between bearings, and the centrifugal oil pump which supplies not only the constant-mesh gears, but also provides a jet of oil to the spiral bevel gears. The final drive ratio is 4.70, but since all ratios are indirect the overall ratios are 4.05, 5.82, 8.65 and 13.44, respectively, all speeds except first and reverse being synchronized. Slightly lower numerical ratios are used in the Gran Turismo sports model.

Special interest attaches to the suspension this this car, because it seems probable that the chief reason for the spectacular performance of the sports model in the Mille Miglia must lie in really good road-holding qualities. Weight distribution without driver or passengers is exactly 50% front, 50% rear. The I.F.S. system has been mentioned as following the traditional Lancia sliding pillar type. This scheme has advantages and disadvantages beyond the scope of this article. Both the coil spring (only 3 inches in diameter) and the double acting hydraulic shock absorber are enclosed, and are concentric with the main supporting tube which acts as the king pin. King pin angle is 1° 7′ and camber is 2°. This results in a steering offset at the ground contact of 3.31 inches. Roll center is at the ground, and in contrast to accepted American practice the ride rate in front is stiffer than the rear. Bump travel is 2.75 inches, and rebound travel is only 1.97 inches for the front wheels. The patented independent rear suspension is well illustrated. The arm pivot location gives a slight toe-in effect as the rear wheels move above or below normal, and also provides for a moderate understeer effect by "axle skewing" as the car rolls. The rear roll center is approximately 4 inches above the ground. A coil spring 5 inches in diameter at each wheel gives a bump travel of 3.54 inches and a rebound travel of 3.15 inches. Unsprung weight at the rear is reduced by placing the brake drums on each side of the differential. Each wheel drive shaft (cardan shaft) has 2 universal joints, the inner pair being of the sliding trunnion type to eliminate "spline bind." Outer or wheel universal joints are accessibly placed well outboard and almost in line with the outer edge of the tire sidewall. This feature requires a very large rear wheel bearing (opposed Timkens) but reduces joint angularity for longer life.

Rubber insulation is used extensively, including large couplings at each end of the propellor shaft, bushings for the I.R.S. pivots, and insulators for the clutch-transmission-differential assembly.

The hydraulic brakes are of standard two shoe pattern with finned cast iron drums and aluminum shoes to reduce fading. All linings are 10.81 inches in diameter x 2.36 inches wide. 60% of the braking effort is applied to the front wheels to take advantage of weight transfer on deceleration.



Drawing of Lancia Aurelia reveals excellent use of available space and compact engine design.

The standard 4-door (pillar-less) Aurelia sedan with frameless construction, on a wheelbase of 112.5 inches, weighs 2492 lbs. With a tread and seat width of 51 inches, the car accommodates 4 comfortably, and 6 occasionally.

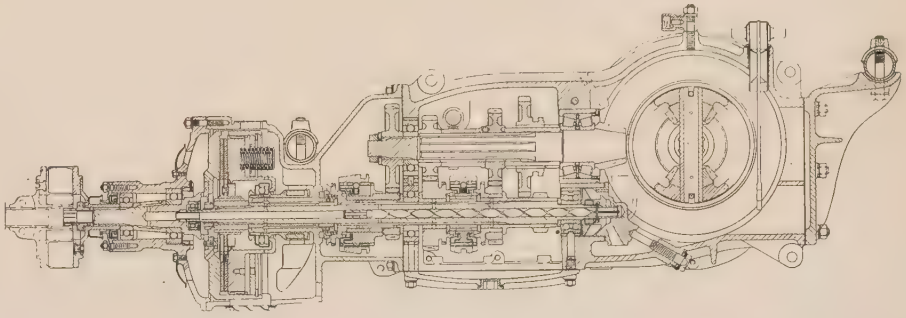
Like the superseded Aprilia 4 cylinder car, the Aurelia is also available in a platform chassis model for the convenience of the custom body builders. Wheelbase, in this case, is 2 inches greater and the chassis weight is given as 1710 lbs. The Gran Turismo model has a shorter wheelbase at 106 inches, and is available only in frameless construction with the light streamlined coupe body built by Lancia. Weight of this coupe is given as 2180 lbs.

As to performance, this new V-6 is intended as an economical car for high speed touring. With 5.50 x 16 tires and a 4.05 axle ratio, the claimed top speed is 84 mph, a figure which has proven to be conservative. The 1754 cc engine with 3-inch stroke gives a theoretical crusing speed of 95 mph for a piston speed of 2500 fpm, a state of affairs which would cause a British editor to say that the engine is "virtually unburstable." In the matter of acceleration the 4-door sedan with 56 bhp engine is definitely a "gearbox car," and full use of the gears is required to enjoy good performance. The high top gear (virtually an overdrive) and the unusually high rpm of the torque peak, gives top gear acceleration of the "gutless" variety, an average of over 8 seconds being required for a 10 mph change over the 10 to 50 mph range. In contrast, the standing start quarter mile takes only 23.4 seconds, about equal to some of the less lively American cars.

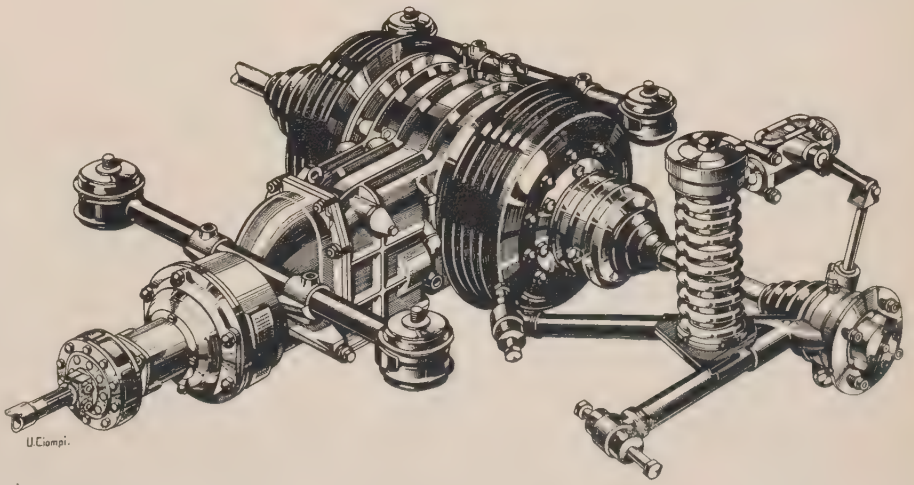
No performance data is available on the higher powered light weight coupe model, but a reduction in the lbs. per hp figure from 44.4 to 29.1 indicates what may be expected. The top speed is claimed to be 100 mph.

The price? Delivered in Italy, the standard 4-door sedan lists at 1,830,000 Lire. Sounds like a lot, but it is actually about $3,000 in our currency.

Cross-section of transmission-differential unit.



Below, rear end and independent rear suspension assembly.



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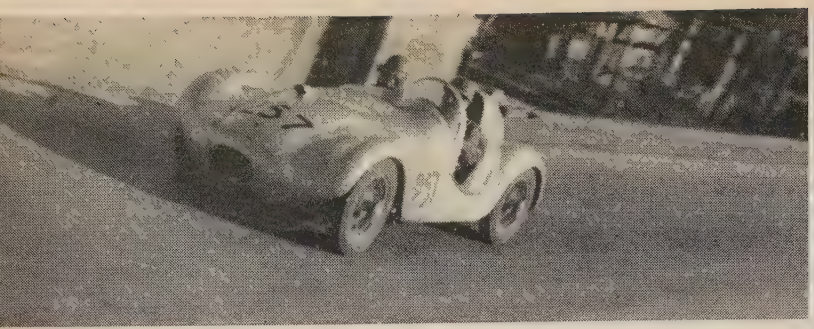
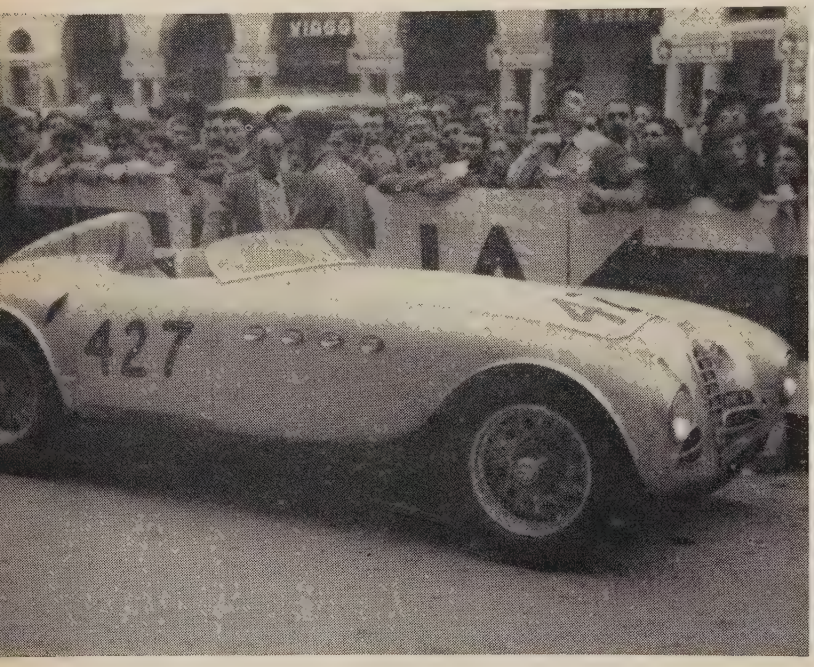


Stanguellini, builder of many famous Fiat 1100 specials, created the interesting body on this car. Note the airplane-like cockpit.



The most powerful car in the race, Bonetto's 4500 cc Alfa, finished 6th.

XVIII MILLE MIGLIA

PHOTOS BY CORRADO MILLANTA

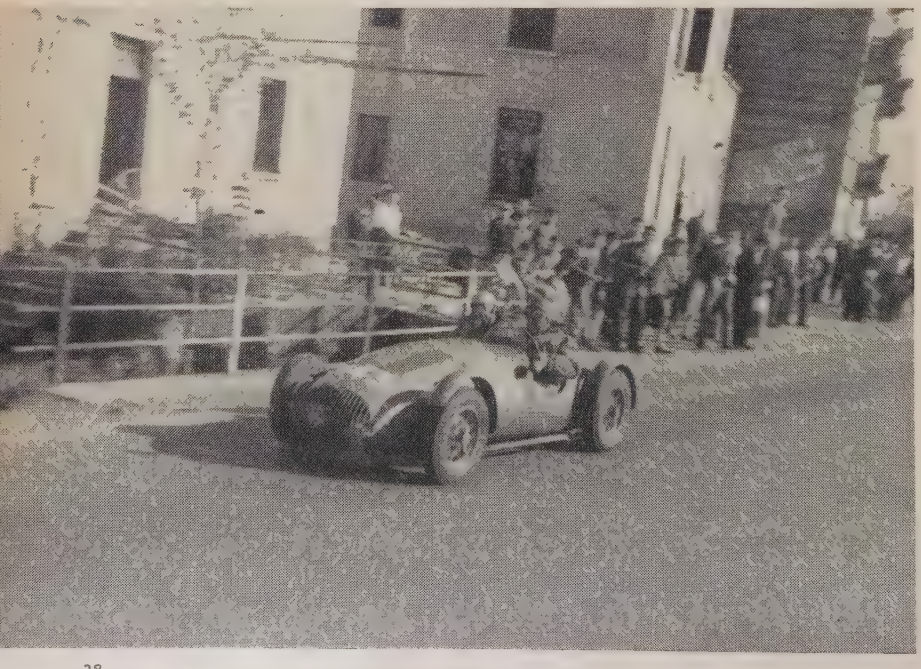
Villoresi's Ferrari coupe waits in the rain just before the start.

by Corrado Millanta

There are two automobile races in the world, which, for their importance, fame and meaning, are completely different than the others: the Mille Miglia and the 24-hour race at Le Mans. Without making any comparison between these two races, we'll talk only about the Mille Miglia.

It is a long road race *(1000 miles)* thru Italy, over all kinds of mountainous and flat roads and thru different weather conditions, between the north and south (from 46 to 42 parallel) ends of the course. It is gaining in popularity every year, not only in Italy, but from all over the world. Millions of spectators line the road, under the rain or the sun, at the sea or on the mountains, by day and by night, according to the location, to watch hundreds and hundreds of cars going by. The amazing part of this very difficult race is the type of drivers participating in it. Most are just amateurs, unknown names, who generally never race anywhere, but they do in this one. The prestige and the enthusiasm of the Mille Miglia brings more and more of them every year to Brescia (where the go signal is given).

Below, Fagioli on Osca 1100 which won its class and placed 8th in overall classification.



We consider the average Italian driver an excellent one, because if a foreigner travels thru Italy, he'll see even the small *Topolinos* going fast on every kind of road, just as if they are racing (there is no speed limit on the road in Italy); also the sports cars, holding amazing speed, without getting into trouble or in an accident. It happens then, just for the occasion of the Mille Miglia, the normal professional men: lawyers, bank directors, doctors, engineers become race drivers. They drive their own cars, which they use every day going to work. In fact the Mille Miglia rules let every kind of car enter. That's why we see the large number of unknown drivers, who fight between them as well as the aces do. With one difference, however: the amateurs drive "standard" cars, while the well-known professionals drive special sport cars with big engines all tuned by the factory.

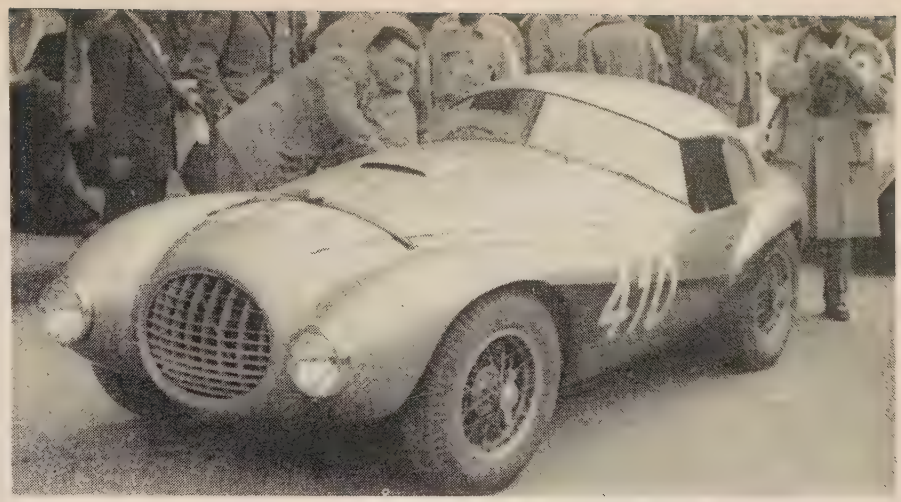
These unknown drivers reach speeds which seem unbelievable at first, but frankly, if it is true that Italian cars cannot offer the same comfort as the American cars do, it's also true that they are among the best ones for their road holding, their ease of handling and stability.

For example, the 1929 Mille Miglia was won by the famous ace Campari on Alfa Romeo 1750 cc, 6 cyl. dohc, blown car, with a special body which could make, that time, about 102 mph., Campari's average speed was about 55 mph. Last year (1950), in the Touring category 750 cc, a car with normal body and driven by one of those unknown drivers, also made 55 mph. Not only that, while in the 1929 race, the weather conditions were very good; in 1950 they were really bad. Even the Topolino of today is faster than the Alfa Romeo of 1929. However, we must admit that the roads of today are better, the course is faster, but the most important thing is the easy driving and the road holding of these Italian small cars. This year, the comparison between the touring and the special "sport race" car (which is practically a race car with a *custom body* to meet the rules of the race) can be made in the same race and at the same time.

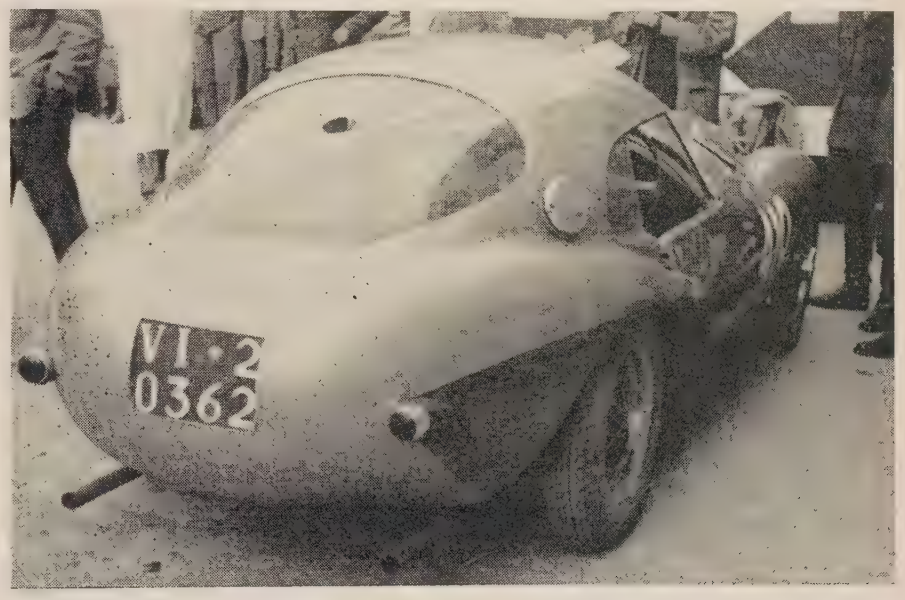
The result of 1951 Mille Miglia has been, no doubt, the most amazing, unexpected, and significant one since 25 years ago, when it had its beginning. The surprise was not the winner Villoresi on Ferrari (4 litre, 12 cyl, 220 hp) but was Bracco, on a Lancia Aurelia type "Gran Turismo", who won 2nd place only *20 minutes* behind the winner. The course itself was mostly on mountains, which in that kind of weather (rain) was evidently against the faster cars. It is a fact that Bracco, on a car of only 1991 cc, after 186 miles was only 60 seconds behind Villoresi and after 620 miles at Siena, 4 minutes behind; and came into Brescia at the finish, just 20 minutes after the winner, as we said before. The average time that Villoresi gained on Bracco was only 90 seconds per hour. Also note that, in this race were about 20 Ferraris, besides several Jaguars, Aston Martins, Allards and Frazer-Nash . . . . among all these cars, only the Ferrari of Villoresi preceded Bracco to the finish.

Between Villoresi and Bracco, some other Ferraris could have come in, certainly if they had not crashed, but it would not

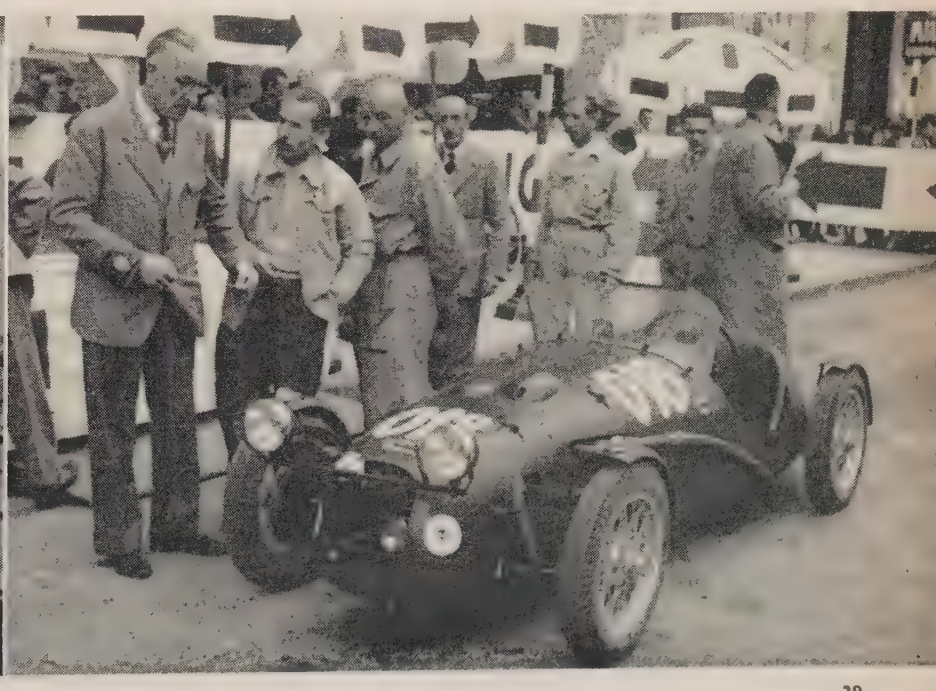
(*Continued on page 34*)



The unusual Ferrari 2500 cc driven by Marzotto, who also designed the body. Was leading the race until it went off the road and was damaged. Note spare tire thru rear window.



Below, left, The winner of the 750 cc Sport category, a Fiat-Giannini. Right, the Fiat-Dagrada 750 cc sports car. Both are highly modified examples of the popular production Fiat.



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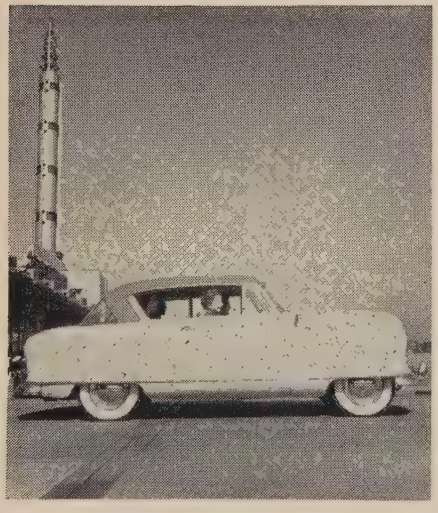
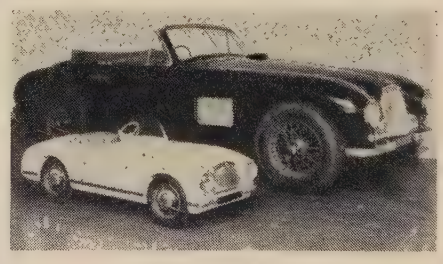


NASH

Recently announced is the long-awaited Nash Rambler hard-top, fourth in the Rambler series. Taking advantage of the present popularity of so-called "hard-top convertibles," the new model has an extreme wide-range rear window.

The factory installation of $300 worth of custom appointments, such as radio, custom upholstery, electric clock and other extras, places the model in a de luxe category.

If the five-passenger Rambler sedan could be purchased without the extras, it should be a serious threat to competitors, having established an all-time mileage record in all classes for all makes in the Mobilgas Grand Canyon Run . . . . 31.05 mpg.



ASTON-MARTIN

More than one enthusiast will murmur "make me a child again, just for tonight," when he sees this perfect miniature Aston-Martin DB-2 drophead coupe.

The model, even tho it is classed as a toy, is perfectly formed in every exterior detail. Painted cream with salmon pink leather uphosltery, the wee auto was built by the makers of Aston-Martin and Lagonda sports cars and presented to the Crown Prince of Sweden recently.

His Royal Highness, aged six, was no doubt thrilled with the gift because it is "just like dad's." His father, H.R.H. Prince Bertil, is the happy owner of a full-scale Aston-Martin.

The tiny car is complete even to headlights and pneumatic tires. I wonder how it would perform with an ohc Norton 500 cc engine installed?

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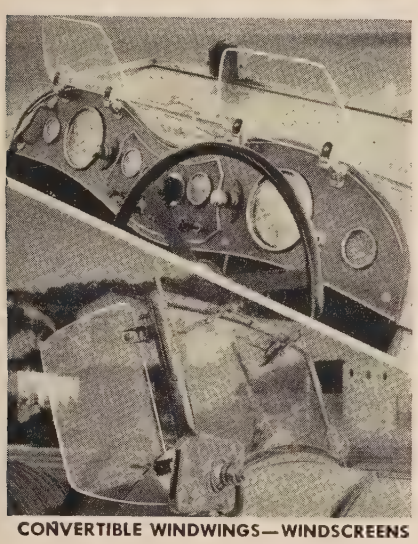

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BOOK REVIEWS

The MOTOR Yearbook, 1951, compiled by Laurence Pomeroy, M.S.A.E., and R. L. de Burgh Walkerley, **The Motor.**

We owe a double debt of gratitude to the British—not only do they build some of the world's best and most interesting automobiles, but they also publish the **best books** on the subject. The 1951 MOTOR Yearbook is one of these and is composed of material from **The Motor,** plus additional charts and photographs. Complete descriptions and detailed specifications of all 1950 British cars (together with some Continental models) are given, along with 28 Road Tests.

Racing for 1950 is equally well documented and superbly photographed, with detailed descriptions of all leading Grand Prix, and Formula 2 and 3 cars. Most leading races are discussed in considerable detail and the book abounds in charts of race results, maps of leading circuits, records established, lap times, etc.

Readers get a special dividend in the form of several pages of those incomparable cartoons of Russell Brockbank—one of the world's finest artists in this field.

This book is the Rolls-Royce of its field—simply beyond comparison. Its quality makes it a treat to the eye and the excellence of its material a gold mine of information. The name of Laurence Pomeroy guarantees plenty of readable and accurate technical material on all phases of automotive design. One of the best investments possible for your motoring library.

Get a Horse, by M. M. Musselman, J. B. Lippincott Co.

One of the few American books on motoring that is in the same class as the best British efforts. This is a history of the growth of the American automobile and the industry behind it. Mr. Musselman writes in an easy humorous style that keeps the reader chuckling and interested every bit of the way. It is a relief to find a writer who freely admits that Henry Ford did NOT invent the automobile and who honestly acknowledges the early lead taken by French and German automobile engineers and manufacturers.

Every phase of motoring in this country is covered—the growth of Ford, the incredible history of General Motors, the building of the Lincoln Highway, and most important, the trials and tribulations of America's welcoming of the Automobile Age . . . wide open throttle . . . one hand on the horn and the other around the best girl!

The Salt of the Earth, by Ab Jenkins and Wendell J. Ashton. Floyd Clymer, Publ.

This books brings us a joint history of Ab Jenkins and the Utah Salt Flats. It is rightly a joint history for altho God made the Flats, Jenkins made them what they are today in the world of motor sport. The amazing Ab has raced on the Salt Flats on bicycles, motorcycles, stock cars and, of course, in his own famous Mormon Meteor which holds such a long list of records. Perhaps the most surprising record held by Ab is that for farm tractors! He piloted an Allis-Chalmers tractor over the salt at 68 mph!

Included in this story of the "Salt" is Jenkins' account of the many record runs carried out by the British drivers, and it all adds up to a very worthwhile addition to any motoring library.

Under My Bonnet, by G.R.N. Minchin. G. T. Foulis & Co.

When I received this latest motoring book from the press of G. T. Foulis (leading British publishers of motoring books), I thought I was in for a boring evening. Instead, I found myself engrossed in the most thoroly readable account of one wealthy, witty and motor-happy Englishman's experiences with automobiles from the beginning of this century.

Mr. Minchin grew up with the European motor car and knew most of the "greats" of the heroic age of motoring and owned most of the famous marques. Fortunately, his story-telling ability is equal to his experiences and the result is a happy one for collectors of motoring books. No one with an interest in British cars should miss the satisfaction of reading this really superb book. —R. BARLOW

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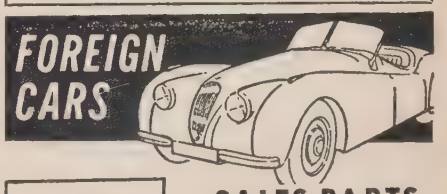

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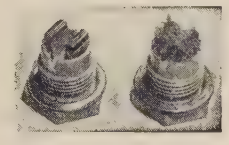

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WESTERN VACATION SPECIAL

Important races on the West Coast have been several months apart, which has worked a hardship on drivers from the rest of the country. They hardly think it worth while to travel thousands of miles for one race. Southern California Sports Car Club has solved all this with plans for four races to be held in a four week period in October and November. The first in this "Road Race Series" is to be at S.C.S.C.C.'s familiar Palm Springs Course. A large national firm, it is rumored, *may* assist by offering a "super" trophy. Second (hold your breath!) will be "The Little Mexican Road Race" . . . from Tijuana (just below the border) to Ensenada, 76 miles south and wham! bam! back again! Not only sports cars, but *sedans* are eligible! And that's not all! For the third race everybody will row, fly or swim over to Catalina Island where, with the splendid cooperation of Wm. Wrigley, the island's owner, a race will be run 'round the city streets! Are you following this? And last but not least, the Reno Chamber of Commerce seems very much attracted by the idea of a race in "The Biggest Little City In The World". Reno plans were originally laid down by Southern California Sports Car Club, who graciously withdrew when the San Francisco Region of Sports Car Club of America expressed interest—the latter being closer to the scene. These two clubs manifested such complete harmony in the recent Pebble Beach Road Race and with such solid results that it won't surprise *Road and Track* if they jointly cause the Reno Road Race to be the best managed event the West has seen. As for Catalina, the least you car lovers can do to thank Mr. Wrigley is chew Spearmint 'till your jaws ache.

SPORTS CAR CLUB OF AMERICA

Sports Car Club of America is going all out for the Elkhart Lake Road Race. A crowd of 100,000 is planned on and I wouldn't be surprised if that many showed . . . . seems a tremendous rally is planned in connection with the event. Members may start from practically any place in America. Sounds great! First check point from L. A., for example, is Phoenix . . . . a slight bend and then Albuquerque, with a sharp left corner at Oklahoma City! This Chicago Region "do" should rival Watkins Glen, Bridgehampton and Pebble Beach. And there will be *two* days of races (Aug. 25th-26th).

L. A. Region S.C.C.A. sponsored a highly successful drag race at Douglas Aircraft plant June 17th. Overall winner: Seifried's very neat Ford competition car . . . . ¼ mile in 14.88. Phil Hill won two firsts when he turned 20 second ¼ mile in a stock MG and 17.98 in Barlow's Simca.

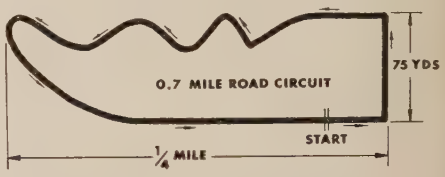
Don't forget to plan for Watkins Glen Sept. 15th. 100,000 attended last year. By the looks of plans being made, this year should be tremendous!

FOUR CYLINDER CLUB OF AMERICA

Austin A-40s from the Four Cylinder Club of America rallied at the airport to welcome Alan Hess when he and his A-40 Sports landed in L. A. on the "round-the-world in 30 days" venture. Each welcoming A-40 had a huge word printed on the side so that a complete sentence could be read as they proceeded in orderly fashion along the streets. All the members greeted Hess and then started to follow his car across Los Angeles in the five o'clock traffic. Half way across town the caravan got scrambled which did strange things to the message on the cars. Spectators were informed that an A-40 Sports was driving *Hess* around the world in 30 days! *More people* are rushing to join Four Cylinder Club now that they've seen the beautiful new badges.

WANNA RACE

Something new has been added recently by San Diego Timing Ass'n. They've prepared



a short course (0.7 mile) for sports cars . . . S bends and a ¼ mile straight. *No entry fee!* 500 cc's invited along with MGs, Singers and 8 litre Bentleys (see map). Contact Bob Devereux, 3282 Strand Way, San Diego 8 or phone H. 8-8779.

AUTO MANIACS

Auto Maniacs, one of the oldest new clubs, is getting set for its 3rd Annual Convention . . . . Sept. 15th, Barlum Hotel, Detroit. Prexy Thompson is concentrating on races for *strictly stock*, family and production cars . . . . the sport needs more of this thinking.

ARROWHEAD FOREIGN CAR CLUB

Arrowhead Foreign Car Club's May rally was a success, thanks to Geo. and Harriet Conrey, who sweated out the plans and arrangements . . . . Bering Monroe, Paul Martin and Ernestine Weaver were 1st, 2nd and 3rd on a MK II TD, Morris Minor and Riley, respectively. Instruments were blacked out which added to navigators' confusion.

OHIO ORGANIZES

You Ohioans should know about Cleveland Sports Car Club. Secretary Andrew Zimmerman will let you in on the fun (2964 Corydon Road, Cleveland Heights 18, Ohio). More and more clubs starting all the time!

NEW CLUB IN BERKELEY, CALIF.

Here's Sports Cars Unlimited in the Berkeley (Calif) area, which is proud of its short but active career. I hear their Saratoga Blossom Festival Rally went over with a bang.

NOTICE NOTICE NOTICE

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GRAND PRIX D'EUROPE

Fangio, the great Argentine driver for Alfa Romeo, won the Grand Prix at Reims July 1. Second was Ascari on Ferrari 4500. Fangio took over the car of teammate Fagioli after his own car failed.

JAGUAR XK-120-C

The Jaguar which won at Le Mans was one of a factory team of three special competition versions of the famous XK-120. Engine modifications such as 8:1 comp. ratio, twin exhaust and "hotter" cam boost the output to over 190 hp. The car weight is about 2100 lbs. Chassis is tubular with 6" shorter wheelbase (96") and torsion bar springing at the rear as well as in front. Brakes have been considerably improved and wire wheels with knock-off hubs are fitted. This car, now known as the XK-120-C, was first known in rumors as the XK-150. The new "C" model will be placed in production . . . Many orders have been received from America and it is expected that deliveries will commence next year.

COMING EVENTS

August 4-5 Buchanan Field, California
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July 28 Carrell Speedway, Gardena, California. Sports car event by So. Calif. S.C.C.
October 14—Catalina Island Road Race
Limited to 3000 spectators. Entries limited to about 25 cars. For boat and race reservations write: California Sports Car Club, Box 11442, Briggs Sta., Los Angeles.
November 11—Little Mexican Road Race
Sports cars up to 3 litres. Sports cars 3 to 6 litres. Production cars up to 1500 cc. Production sedans and convertibles over 2000 cc. (In this class, two of each make American car allowed, one of which must be an entry from Mexico).
Course:
Ensenada to Arroyo Seco—70 miles.
Restart and return to Ensenada—70 miles.
Total 140 miles, mostly straights.
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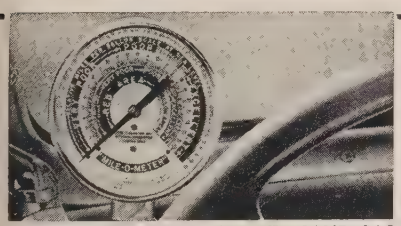

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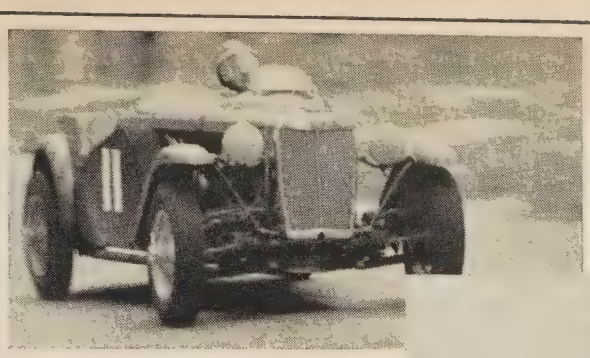

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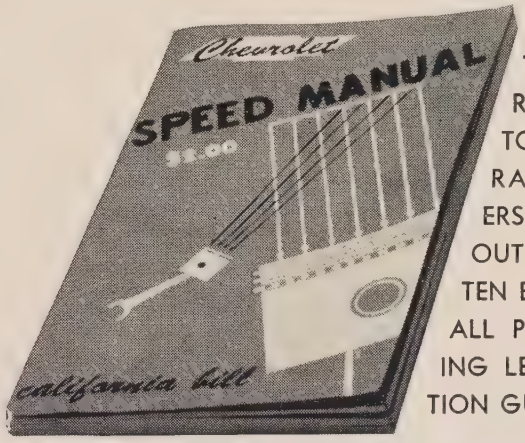

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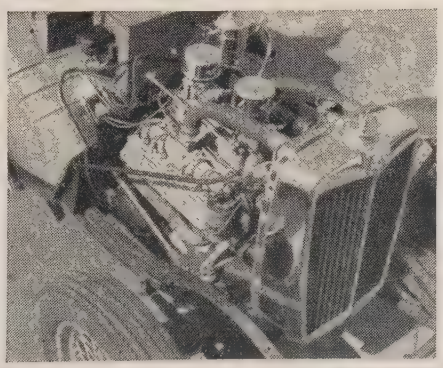

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The Fiat-Marino 750 cc sports car. Very interesting because its Fiat 1100 cc engine is now reduced to 750 cc. Note the characteristic arrows of the Mille Miglia in the background.

MILLE MIGLIA

(Continued from page 29)

change the meaning because the important fact is the 20-minute time between the Ferrari 4 litres and the Lancia Aurelia Grand Tourist 1991 cc. Such a short time in between is remarkable considering the large difference of displacement between them.

It shows that the Italian automobile industry today is already able to produce touring cars, which practically are very close to the famous sports cars. This result is really satisfying. In fact, if we look thru the history of the Grand Prix, we'll find that the G. P. car of today, 1500 cc blown, has already reached the average speed, that the big 5 litre blown cars, 500-550 hp made before the war. All of which means that there is a limit fixed by weight/power ratio, farther than which it is useless to go. Instead, once having reached the "optimum" weight/power ratio, it is necessary to work on the chassis, improving the road holding for instance, so as to gain on the curves some precious seconds, which will be minutes after hundreds of miles.

The Mille Miglia of this year showed that under such kinds of weather (rain), a car like Ferrari 4.1 litres, producing about 225 hp, weighing 2000 pounds (about 9 lb/hp) is superfluous. The fact has been also proved by another Ferrari 2500 cc of Marzotto, who led until he went off the course. Then, while Villoresi had too many horsepower, Bracco, in the Lancia, could go at full speed all the way thru, even with the rain at night and on that varied course.

Bonetto, on the most powerful car, an Alfa 4500 cc, placed 6th, which means the same thing we said about Villoresi. Bracco's car instead had a 24 lb/hp weight/power ratio, but its characteristics were almost unbelievable, for instance, its road-holding and its formidable braking, its speed was about 108 mph against 139 mph of the big sports cars. By all this we can deduce that the best sport car for a competition like the Italian Mille Miglia should be around 3 litres, having 14-18 lb/hp weight/power ratio.

The unexpected comparison of the first two finishers at the Mille Miglia of this year takes off some of the interest about the single fights between the sports cars and tourist cars of various categories. Other brilliant performances were made at the same time, for instance, the one by the Osca, winning clearly the sport category 1100 cc, with the well known 4 cylinder engine, 2 overhead cams, producing about 75 hp, using straight gas (80 octane). Fagioli drove the winning Osca; the other Oscas placed 8th, 10th, 12th, 19th and 20th.

Three hundred and twenty-five cars started; 175 came in. Among the foreign cars, Aston-Martin was good, winning the category "Gran Tourist" over 2 litres; also Dyna-Panhard won the Touring 750 cc category, beating the Topolinos of smaller displacement (570 cc). All the other categories which were eleven all together, were won by Italian cars.

We wish to see the American sport cars at the Mille Miglia next year. Such an event would certainly increase the interest in this long race, which already saw in 1928-29 and 30 the entry of La Salle and of Chrysler in the 5 litre category.

A single victory, even of category, in this race, which is the only one of its kind in the world, is the best achievement for any driver or car. The Mille Miglia is, in fact, the most complete "test bench" for every new type of car; all Italian cars go officially, or unofficially (the ones driven by private persons), thru this hard race.

It isn't easy for the foreign driver to drive in the Mille Miglia, because being new, he will have to work hard to know the course. Tho, taking care with every detail of the organization, having a good car and making serious tests on the most difficult parts of the course, it is possible to gain some good results. There is a car in America, the "Cunningham," which seems to be suitable for this kind of race. Participating with mixed crew (Italo-American), the thing would be much easier.

The writer of this article will offer his collaboration to any American desiring to enter the 1952 Mille Miglia by assisting him during the testing and during the race also making contact with the best Italian drivers, letting one of them co-drive the American car.

DETROIT DIRT

by Sedanette

At the annual meeting of the Society of Automotive Engineers many interesting topics are discussed. This year, however, much concerned military vehicles, as the auto industry is converting many of its engineering and production facilities to war goods. A number of the new military vehicles will be powered by Continental's pancake air-cooled engines recently developed. These have been highly successful in trials and there is talk that with the new and present day techniques in die casting and machining, the air-cooled engine may return to the passenger car field.

Automatic transmissions came in for their share of discussion at French Lick; however, a growing interest in the development of gas turbines for passenger car use foreshadows a waning of interest in the trick gear boxes. Such a car would require only a reverse gear of some sort, as the turbine itself would be an infinitely variable gear box. One American manufacturer has a turbine powered car on the road.

General Motors has developed a new "third range" for the Hydra-Matic unit for city or mountain driving. It will appear on the 1952 Cadillac. Chrysler's new torque converter transmission will eliminate the clutch entirely.

The current war situation and projected military programs are having a market effect on Detroit's plans for new cars. Some of the tooling programs are too far along to scrap at this point which means there will be some new models out the latter part of this year, while other models projected for '52 will never see the light of day. In October, Ford will announce an entirely new car—with three spinners in the front end, two little ones and one big one—very low body and lots of glass area. Engine will be the new 221 cu in., 110 hp ohv V-8 or 215 cu in., 102 hp, ohv-6 optional. Merc has an ohv 247 cu in. 120 hp engine, but Lincoln probably won't do anything more than a face-lifting on their present two lines. Lincoln's experimental ohv V-8 was heavier and less powerful than their present engine.

Chrysler Corp. will announce their 1952 models later this year. They will have a new lower look somewhat along the Italian school of styling. The Chrysler V-8 will be continued. Dodge and De Soto have new ohv V-8s. Plymouth is obscure as to their future plans . . . there is talk now of a 200 cu. in. ohv V-8 for the 1953 car.

Hudson will continue with their present line, a "hard top," having been recently added. For '52, Hudson's present models will be "face-lifted." Packard will possibly introduce an ohv V-8 in their '52 line, which will be a continuation of their present model with minor detail changes.

Studebaker, we hear, will use their current engines in an entirely re-styled body line. The appearance of the 1952 is reportedly as exotic as the '47 was thought to be when it made its debut in 1946.

General Motors plans are somewhat nebulous at the moment. Chevrolet may bring out out a V-8, ohv, of course, as may Pontiac and Buick. These three have been in the "off-again, on-again" stage for the past two years, and it isn't clear at this writing just what will happen. Olds and Cadillac will continue with minor changes.

Government cutback in materials will cut production by about 35% in the next 12-month period, so if you anticipate buying a new car, don't delay too long.

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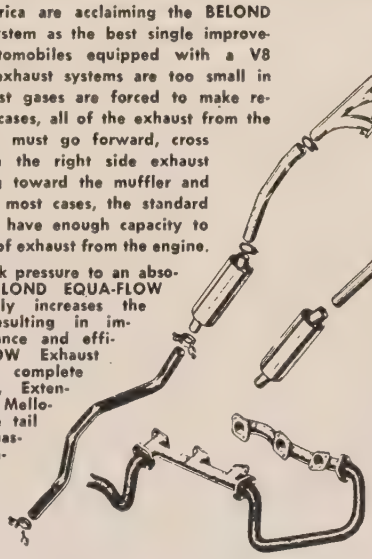

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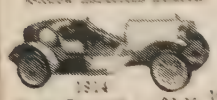

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FANGIO

(Continued from page 15)

Born in 1911, Fangio started his racing career right in his own backyard. After some trials on nearby "farm" ovals, he entered his first important event at Gonzalez Chaves 1936. Being late for the start, he competed with no hope at all. His record then shows a gap, until 1938, when he entered a just-finished Ford at Necochea. His qualifying time won him a place in the front row, alongside Carlos Arzani on Alfa, the "cleanup combination" of that time. As the go-flag dropped, Fangio jumped ahead, while Arzani, on the pole, lagged from wheelspin as his powerful 2.9 Alfa had to start on a puddle caused by the watering wagon. "My first triumph." Fangio would quote, "as I actually did beat the Alfa in the get-away with a poor V-8." He admits tho, Arzani was zooming past him less than 100 yards from the start. "But I took off in front anyway and it was fun." In that race he got 2nd in a heat and 7th in the main. At Tres Arroyos, the same year, he got 8th place.

In 1939 Fangio entered the Argentine Grand Prix, a modified stock car event. Before the race, a group of friends and followers had gathered funds to buy him a stock Ford, as this make was reigning supreme in highway races. But a Chevrolet had to do, as no Ford coupes were available. Fangio is supposed to have frowned at the handicap upon him, but he started just the same. At the end of the first leg, he was in 108th place, after suffering a lot of mechanical trouble. Arriving in Cordoba City he drove to the local Chevrolet dealer's shop for repairs, among them a badly scored crankshaft. No money, no spares, and a lot of work to be done, didn't discourage him, but the Chevrolet dealer tried to dissuade him from resuming the race as his performance couldn't possibly be better in the remainder of the race and would reflect discredit on Chevrolet. Regardless, Fangio stuck to the work, but soon had to give it up as his mechanics left to look after the official team's cars, and even the tools were literally taken away from his hands. So there he stood, with repairs half done, no tools, no spares, and no money . . . sadly, he gave up. Then occurred one of Fangio's favorite episodes. A taxi-driver, who was an ardent race fan, saw him in distress and put his own machine shop at his disposal, volunteering to give him a hand. This man, who then became one of Fangio's dearest friends, did a great job, and by starting time, the car was more or less fixed. A young boy mechanic did his part too, as he stole a couple of oil cans and slipped them into the Chevvy when it left the dealer's place.

He started the second leg of the big race in the 108th position, with rather worn tires, but he took the gamble as he did not want to take advantage of the goodwill of his friend-sponsors, to whom he had frequently stood for help en route. Odds against him, Fangio made it. He got ninth on the second lap and thus jumped from the 108th to the 22nd place in overall running. The race was halted at this point because of heavy rain, but things now looked bright to Fangio. The same people who had ignored him and frowned upon his keen determination, were patting him on the back and lavishly offering assistance. They insisted upon replacing all worn equipment at no expense, he had only to ask for parts, tires, and so on. Fangio sent a now historical wire to his friends, "Don't send any more money."

A week later the race was resumed where it had been left off, under the name of "Extraordinary Grand Prix." Fangio got fifth place. A 13th position in the 1,000 mile race closed the year's activity. From then on Fangio drove as a member of the official Chevrolet team, devoting himself to stocks exclusively. In 1940 he won the Argentine Grand Prix and got 8th in the 1,000 mile race.

At the wheel of the Maserati, Fangio started his European campaign by winning at San Remo, Pau and Perpignan. Also won at Marseille, on a Simca. Drove a 122 cu in. Maserati (unblown) at Rome . . . forced out. Also out at Belgium, but won at Monza on a brand new 122 cu in. Ferrari and at Albi, on the Maserati. Again out at the Grand Prix of France (Maserati) and the Jean Pierre Wimille Prize (Ferrari) run on the same day at Rheims.

Back home, Fangio took 2nd place in the Argentine Grand Prix for stock cars. His last race in 1949 was the Grand Prix of Buenos Aires where he was runner-up to Ascari at the wheel of his 122 cu in. Ferrari which was now fitted with a 2-stage supercharger. In January 1950 the 2nd Buenos Aires race of the series was apparently "in the bag" when a sticky wheel kept him at the pits long enough to drop him back to 4th spot. He was out of the race due to crashes in both Mar del Plata and Rosario races.

Fangio's European invasion started with a 3rd place at Marseilles (Ferrari) and 1st at Pau (Maserati). He made his debut as a member of the Alfa Romeo team by winning at San Remo. Then got 3rd place in the Mille Miglia on a sports coupe Alfa Romeo. Was forced out at Silverstone when his Alfa developed trouble while running in second position. Was the winner at Monaco, a survivor of the 14-car crash in the first laps. At Monza (Ferrari) and Berne (Alfa Romeo) was forced out. Won at Angouleme, on his old Maserati, and at Spa (Alfa Romeo). Was out at Le Mans 24-hour-race (Simca). Won the Grand Prix of France on Alfa Romeo, and was runner-up at Bari on the same car. Later, he ran at Albi and Holland on his Maserati but was forced out. Again at the wheel of an Alfa Romeo, won at Geneve and Pescara and got 2nd place at Silverstone. At the end of the European season he was second in point standings, very close to Farina, the 1950 champion.

His amazing campaign in Europe requires no comment and it is easy to imagine the delirious reception paid him by the crowds upon arrival back home. He did not idle for long, however, and soon reappeared in domestic races. He won at Parana, breaking all previous records, and at Chile. On December 24th he closed another year, smashing all records in the 500 mile race at Rafaela, at the wheel of a Talbot brought here especially for this race. The Mercedes-Benz race directors chose him as number one driver for the 3-car-team which was going to enter the International races at Buenos Aires in February 1951. On the very first practice spin Fangio proved quite fit for the car, but he had trouble in both races and the best he could manage was third in the first event. However, he set the lap record for the newly laid road course (13500 meter long) 1:58.40.

Owner of the finest racing stable in South America, Fangio plans to keep on driving for Alfa, altho he has given no definite information as to the more distant future. Some rumors state he will defend the Mercedes Benz badge and some bolder ones claim it is practically a fact that he will man the much touted hush-hush creation of the late Dr. Porsche, the 440hp four wheel drive 1500 cc Cisitalia which has been acquired by an Argentine concern. (*Road and Track*, March, 1951)

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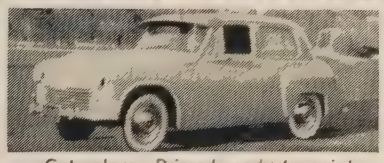

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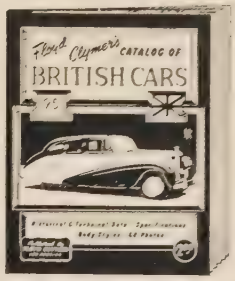

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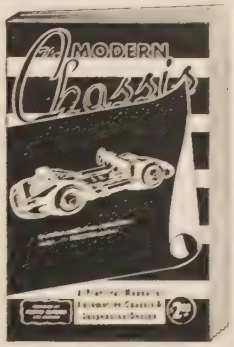

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BRIDGEHAMPTON

(*Continued from page 13*)

The Vintage Car Exhibition Run

Between the third and fourth races, speed was temporarily replaced by nostalgia when a score of antique and vintage sports cars made four circuits of the course.

As usual, this sedate event deteriorated into somewhat of a race, at least in part, tho not nearly to such a degree as last year, when the 1914 Mason-Duesenberg roared over the line "the winnah!"

Famed names of the past were present aplenty—Stutz Bearcat, Mercer Raceabout, Thomas Flyer, Simplex, Stanley, Moon, Hispano-Suiza, Minerva, and others. A large percentage came from Austin Clark's nearby Long Island Automotive Museum.

At the victory buffet after the race, the prize for the best vintage car went to local Courtney Rogers and his 1923 supercharged Mercedes racing car. Rogers drove in Bridgehampton races 'way back when, by the way. Another old-time racing ace was present—Joe Tracy in a 1910 Stanley steamer.

Bridgehampton Cup Race

In this, the 100-mile main event, Cole's Chrysler-Allard had the pole at the start, with Goldschmidt's Cadillac-Allard alongside. This, the only flying-start event, was paced at a safe speed by amiable honorary starter Robert Montgomery in a sparkling new Nash-Healey.

Cole adhered closely to Eddie Rickenbacker's old racing prescription, "Get out in front and drive like hell," by snatching the lead at the outset and keeping it to the end. At the end of lap 1, Goldschmidt was second, followed by Stevenson. On his second lap, Cole considerably lengthened his lead over Stevenson, who had passed Goldschmidt. By lap 4, Cole was already beginning to lap the tail-enders, while Stevenson had dropped back a couple of places.

During the first few laps, Cole slid the corners . . . . his four-wheel drifting on School House Corner was really impressive . . . . but once his lead became securely long, he changed tactics. The first and last corners he took particularly slowly, scarcely sliding at all, and depending on the Chrysler-Allard's terrific acceleration to make it up.

At about this time, there developed a three-way fight for second position between Phil Walters in Cunningham's closed Ferrari, John Fitch in his "Le Mans" Jaguar, and Goldschmidt (Cadillac-Allard), Stevenson now being fifth. For four laps, while Walters was second, Fitch (third) and Goldschmidt (fourth) struggled for third spot. This culminated in Goldschmidt taking Fitch on Ocean Road in lap 10.

Then Goldschmidt took after Walters, 12 secs ahead. By the end of lap 17, Walters was but 6 secs ahead, and then on the next round Walters went a bit wide, giving Goldschmidt a 4-sec gain. In lap 19, Goldschmidt finally passed Walters into second position, which he held for three laps before stalling at the start of lap 23 while taking a sharp turn. Walters thereby regained second spot until the end of the race, Goldschmidt finising 3rd, followed by Fitch, Cunningham (Ferrari), Reider (XK) and Wacker (XK).

Stevenson ultimately came in 8th overall (third in Class B), despite an 18-sec stop, while lying fifth, to tear off the right-front fender, which he had hay-baled into his wheel.

The smaller cars then came in, with O'Shea ninth overall (second in Class D); followed by Koster, H.R.G. (first in Class F); Simpson's Healey, Stiles' MG, McGee's Cisitalia (first in Class G); Lansing's Crosley, and Ferguson, Cisitalia, in that order. Only the first eight or nine cars completed the 25 laps. Twenty had started.

CAR NOTES

Cole's Chrysler-Allard marks the first race for Chrysler's new 180-hp, ohv V-8. Significantly, the one in Cole's car (owned by John Perona) is **stock** except for four carburetors. It even had hydraulic valve lifters (solids not available yet), despite which Cole reported 5000 rpm (130 mph) in several places on the course.

Perry Boswell's Lester MG was a favorite to win the Sagaponack Trophy Race, being just off the **Queen Mary** from England after victories at Goodwood and elsewhere. It has a T-type MG engine, bored and stroked to 1497 cc, modified TD ifs, tubular chassis, and an early MG rear axle on semi-elliptics carried in friction trunnions instead of being shackled. Too bad it went out early in the race with a slipping clutch.

The "Mille Miglia" B.M.W.s driven by Grier and Kulok are of six originally built. Essentially modified 328's, they have about 50% more power and much less weight. Designed by Schleicher of B.M.W. early in the recent war, they have an impressive racing record, notably the Brescia win in 1940. Kulok's car was very recently brought over by Bob Ziles, who unearthed it in uncompleted form in Germany, where, after considerable complication, it was assembled with the aid of Schleicher and others of B.M.W.

John Fitch's Jaguar XK-120 is stock except for slightly more valve overlap. The "Le Mans" designation refers only to the special body.

Logan Hill's Wade-blown XK-120 now has the expected poke, thanks to a huge aircraft carburetor, but all the horses went for naught due to "Jaguar disease," . . . . no brakes.

All cars other than the 500 cc machines had to use pump fuel.

Speeds are going up fast. Last year, Cole won the 80-mile main race at "nearly 80 mph." This year he won the 100-miler at 86.9 mph; with someone breathing down his neck most of the way he could have raised this last figure.

There is a Grand Prix smell in the air around these bigger sports car races. The "daily use" drivers haven't even a chance now. But as the modified cars become more special, there will develop a tendency toward separate races for "racing sports cars" and for such cars as are in essentially stock condition.

The timing was all by stopwatch, and there weren't enough timers and scorers (or experience) to keep a complete set of accurate results. This will improve with time, we hope.

The crowd was at least double last year's and was greater than the available police could handle. Spectators swarmed in and around the pits, and were on the course more than enough to create hazards. Organization and crowd control was poor . . . . far below the standard set by Pebble Beach.

The prize silverware at the victory buffet covered a large table. Everyone who had done well went home with something, but Cole must have had to hire a trailer.

Great credit is due to the following, and their many assistants, for a great day's racing: Bruce Stevenson, general chairman; B. J. Corrigan, co-chairman and president of the Lions Club; Dave Mitchell, chief steward; Nils Mickelson, starter; Robert Montgomery, honorary starter; Otto Linton, pit steward and technical inspector; Monroe Strong, chief scrutineer; Austin Clark, Jr., publicity chairman and program director; Adria Aldrich, publicity; and McIvor Woody, chief timer and scorer.

RESULTS OF FINAL BY CLASS

Class B (5000-8000 cc)—1 hr. 12 min. 50 sec.
1. T. L. H. Cole, Jr. ..... Chrysler-Allard
2. Erwin Goldschmidt ..... Cadillac-Allard
3. Bruce Stevenson ..... Meyer Special

Class C (3000-5000 cc)—1 hr. 14 min. 45 sec.
1. John Fitch ..... "Le Mans" Jaguar XK 120
2. Bob Reider ..... Jaguar XK 120
3. Fred Wacker ..... Jaguar XK 120

Class D (2000-3000 cc)—1 hr. 13 min. 5 sec.
1. Phil Walters ..... Ferrari
2. Paul O'Shea ..... Fitch model B
3. Jim Simpson, Jr. ..... Healey

Class E (1500-2000 cc)—1 hr. 18 min. 5 sec.
1. Briggs Cunningham ..... Ferrari
2. John Bentley ..... MG/sc

Class F (1100-1500 cc)*
1. Fritz Koster ..... H.R.G.
2. Jim Stiles, Jr. ..... MG TC
3. Jim Pauley ..... Cisitalia

Class G (750-1100 cc)*
1. Jim McGee ..... Cisitalia
2. Steve Lansing ..... Crosley
3. Joe Ferguson ..... Cisitalia

* None completed 25 laps.

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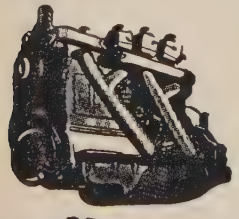

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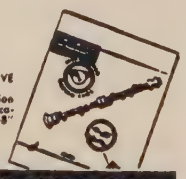

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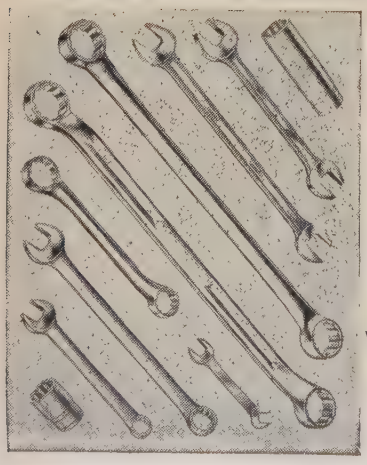

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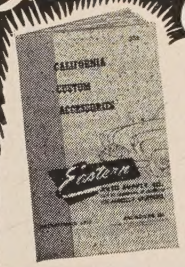

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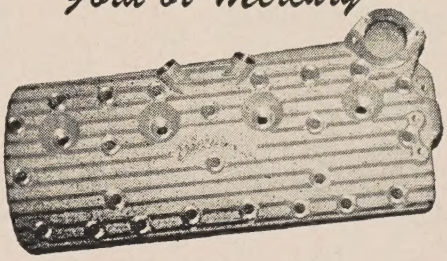

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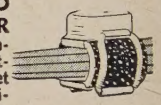

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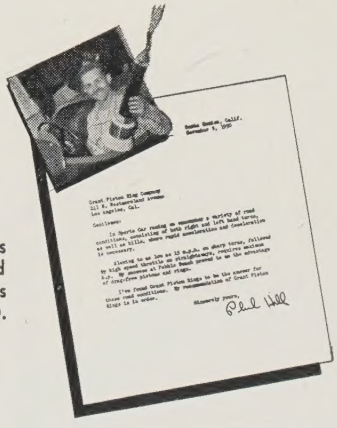

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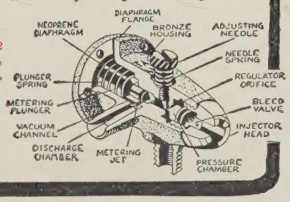

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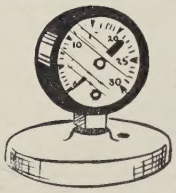

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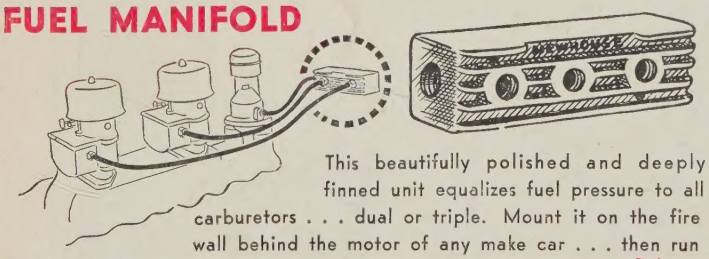

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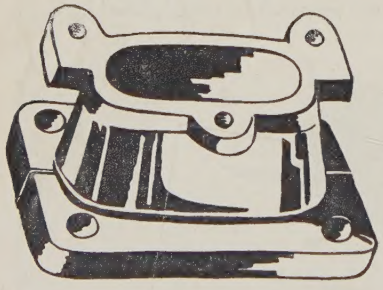

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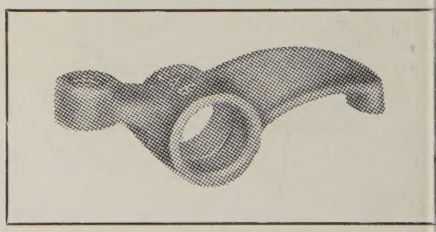

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